

INSIDE
DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE
F. TAUBENECK

Stories of the Week
Gags of the Week
Interesting Fellow
Whose Bruised?
More on Selling
Out of Our Mailbag

Stories of the Week

"It's vulgar to wear a diamond bracelet in the daytime," criticized the office old maid.

"That's what I thought," trilled Suzie, "until I owned a diamond bracelet."

Recently an office supply store displayed a \$2.95 file in its window sign saying: "Guaranteed to hold the yearly bills of the average man."

In the same window was a larger file, priced at \$3.95. This one bore a card:

"Not guaranteed to hold the yearly bills of the average woman."

"Hm-m-m. How did you break your arm?"

"By trying to pat myself on the back for minding my own business."

Harold Husband became overwhelmingly bored at a big party.

"Think I'll flirt with a good-looking gal," he said to himself. "Then my wife will march me home."

An examination query:

"When groups of the following are together, what is each group called?"

Answers by Janie:

Turkeys: "flock."

Sheep: "herd."

Camels: "carton."

Gags of the Week

It isn't what you eat that gives you ulcers; blame what's eating you.

A good anvil need not fear the hammer.

When they clean up all the comic books and literature that might be harmful to children, many adults will not have anything to read.—*Grit*.

Interesting Fellow

During World War II "Dope" had a dollar-a-year job with the War Production Board. One of the most interesting men we met during that intermittent tour-of-duty was Leon Henderson, the OPA director.

Leon now is a factor in our industry. And he reads AIR CONDITIONING & REFRIGERATION NEWS. Herewith we quote a recent letter:

Monarch Air Conditioning Corp.
New York 36, N. Y.

Dear George:

Saturdays—while the office is closed—I usually get the "Inside Dope."

I enjoyed your item on mottos. I have used one on "money" that (Concluded on Page 9, Col. 1)

No Boom, No Story!

We had expected to have a complete report for this issue on results of the "Operation Cue" nuclear bomb explosion from Editorial Director Phil B. Redeker, who traveled to Yucca Flats to get the story for News readers.

But postponements in conducting the test, due to unfavorable weather conditions, delayed Redeker's dispatch. We hope to bring you his report on the explosion's effect on appliances and stored foods in next week's issue.

80% of Space Gone

ARI Sounds Warning
To Make All-Industry
Reservations Soon

WASHINGTON, D. C.—With over 80% of all space sold, the Air-Conditioning and Refrigeration Institute has sounded a warning to manufacturers of air conditioning and commercial refrigeration equipment to apply at once for space in the national trade show known as the 9th Exposition of the Air-Conditioning and Refrigeration Industry to be held in Atlantic City, Nov. 28 through Dec. 1, 1955.

Anticipating an increase in the growth of the show, we enlarged the exhibit area from 64,000 to 88,000 sq. ft.—an increase of 38%, says F. G. Coggin, chairman of the Exposition Committee of ARI.

"With 72,000 sq. ft. of space already sold to 185 exhibitors, the Atlantic City Exposition is already 12% larger than the entire Cleveland show, and in all probability will be over one-third larger. While there is still plenty of good space

(Concluded on Back Page, Col. 1)

Glen Alden Co.

Purchases Mathes
For \$11 Million

WILKES-BARRE, Pa.—Purchase of the Mathes Co., Fort Worth, Texas air conditioning equipment manufacturing firm, for \$11 million was announced here recently by Francis O. Case, president of the Glen Alden Coal Co.

Case said the purchase was part of a diversification program for Glen Alden, which he claims is the largest anthracite coal producer.

Though the purchase was consummated in mid-April, it became effective last March 1, which is the beginning of Mathes fiscal year. Case said the purchase agreement "provides for \$1.5 million in cash (Concluded on Back Page, Col. 5)

Big 'Food Club' Restrained from Bait Ads

NEW YORK CITY—National Food Clubs, Inc., described as one of the largest food plan operations in the metropolitan area, is permanently restrained from engaging in "bait advertising" practices under a consent judgment signed recently by Supreme Court Justice William C. Hecht, Jr.

The injunction was signed on the application of State Attorney General Jacob Javits, who has

\$108 Per Man Per Year Lost In N. Y.

Plants Without Air Conditioning

NEWARK, N. J.—A survey of 75 industrial plants in the metropolitan New York area showed that the average plant without air conditioning lost the equivalent of \$108 in wages for each employee during the year.

This was reported recently by Joseph A. Rosenthal, president of Engineers Co., Inc., consulting engineer here.

"In accordance with the present trend towards air conditioning and based on our study," Rosenthal said, "we have designed and we are now supervising the construction of a 65,000-sq. ft. industrial plant for the manufacture of electronic components and a 43,000-sq. ft. industrial plant for the manufacture of lawn mowers that will be completely air conditioned in factory and office area.

"In addition, we are currently designing a plant of 40,000 sq. ft. for the manufacturing of shades, and this plant will also be fully air conditioned."

Rosenthal said the survey showed that about 100 days in each year were so hot or humid

Servel Elects Morrill
V. P., Div. Gen. Mgr.

EVANSVILLE, Ind.—John R. Morrill, of Spokane, Wash., has been elected a vice president of Servel, Inc., and on June 1 will become general manager of the company's commercial refrigeration division.

Announcement of Morrill's appointment was made by Duncan C. Menzies, Servel president.

For the past three years Morrill has been vice president and general manager of Gibson Welding Supplies, of Spokane, manufacturer and distributor of welding equipment and supplies.

Previously he was vice president of Baker Raulang Co., of Cleveland, manufacturer of industrial fork (Concluded on Page 25, Col. 4)

NEMA Freezer Sales

Continue Strong Gains

NEW YORK CITY—Strong gains in home freezer sales during February kept 1955 rolling well ahead of 1954, reports from 22 companies to the National Electrical Manufacturers Association indicated recently.

Sales of 61,000 units during February marked a 20% gain over the same month last year and a 7% over January. Sales for the first two months of the year were 18% ahead of the same period in 1954.

The upward push in freezer sales was even stronger in foreign coun- (Concluded on Page 12, Col. 4)

Published every Monday
450 West Fort St., Detroit 24, Michigan
Established 1926

Member
Associated
Business
Publications



Member
American
Society of
Circulators

TECUMSEH, Mich.—Tecumseh Products, world's largest builder of refrigeration condensing units, has absorbed Tresco, Inc. The latter has handled Tecumseh's sales and engineering, on a contractual basis, since the parent company was founded.

Ray Herrick, Tecumseh Products chairman, announces that Tresco's former owners—Curtis M. Brown, Jens K. Touborg, Frank K. Smith—will be executive vice presidents and active members of the executive committee. They have been elected to the board of directors of Tecumseh Products.

Reason for merging at this time (Concluded on Back Page, Col. 3)

Restaurant Show Set
For May 9 In Chicago

CHICAGO—At latest count, 56 manufacturers in the refrigeration industry will display their products at the National Restaurant Association exposition at the Navy Pier here from May 9 through 13.

The more than 500 exhibits will be open each of the five days from 8:30 a.m. to 6 p.m. There is no charge for registration, which can be done at the Navy Pier.

Monday, May 9, has been set aside as Dealer Day. Only dealers and wholesalers will be admitted to the exhibits on this day.

Along with the exhibits, the NRA will also hold its national convention and a program of 14 shop talk sessions of interest to restaurant and food service operators.

(Concluded on Page 4, Col. 1)

Norge Offers Refrigerators
For Storage of
Salk Vaccine

CHICAGO—Norge Sales Corp. has offered to lend refrigerators for storage of Salk anti-polio vaccine throughout the country during the mass immunization program.

R. C. Connell, vice president, said Norge made the offer after being advised by a vaccine supplier that proper storage will be an urgent problem in many suburban and rural communities.

Connell sent the following telegram to 82 Norge distributors:

"Leading supplier of Salk polio- (Concluded on Back Page, Col. 5)

DON'T MISS . . .

Colored Commercial Display Cases

Two Manufacturers Give Opposite Views
On Future of Colored Fixture Demand..... 5

'What Every Young Serviceman Should Know'
A Manual of Customer Relations Written
By Operator of Large Service Organization..... 6Air Conditioning Aids Fabric Maker
Temperature, Humidity Control Helps
Manufacturer Meet Government Standards..... 15Auto Air Conditioning
Lower Price, Better Performance
Seen Vital To Exploit Mass Market..... 20

. . . In This Issue

To Be
SURE
of Satisfaction

Be **SURE** to Specify
READING
COPPER
TUBING
FOR REFRIGERATION
& AIR CONDITIONING
EQUIPMENT

READING
TUBE CORPORATION
EMPIRE STATE BUILDING
NEW YORK 1, N. Y.
WORKS: READING, PA.

To Eliminate Suffocation Deaths**NEMA Launches Second Campaign Against Discarded Refrigerators and Freezers**

NEW YORK CITY—To eliminate the unnecessary suffocation deaths of small children in discarded airtight containers, the household refrigerator and farm and home freezer sections of the National Electrical Manufacturers Association has launched its second discarded refrigerator-freezer campaign.

Timed to coincide with the May to September period when such accidents most frequently occur, the educational campaign aims to warn both adults and children of the dangers of discarded boxes.

As they did last year, the two sections are cooperating with the National Safety Council in their drive.

A fact sheet on the campaign issued by the two sections asserts that the results of last year's campaign indicate that education is the answer to minimizing this danger. It notes that during 1954, the number of deaths was reduced from previous years both in number of incidents and number of children involved.

The 1955 drive will be spearheaded during May by the release of materials and posters through the National Safety Council and the National Congress of Parents and Teachers.

These organizations are scheduled to distribute 350,000 posters on "Hidden Danger." These posters show two curious children and a puppy investigating an abandoned refrigerator.

The poster tells children: "Don't play in old refrigerators or ice boxes because . . . You can't get out. You can't be seen or heard. You can't breathe. Do tell your parents if you find one."

The fact sheet said that 135,000

Ohio Law Sets \$25 to \$200 Fines

COLUMBUS, Ohio—The Ohio legislature recently passed a bill that would provide \$25 to \$200 fines for persons who abandon refrigerators when children might have access to them.

similar posters were distributed in 1954.

A special adaptation of the poster will be made available for placing on bulletin boards of offices and plants throughout the country by the electrical industry.

In addition, 350,000 data sheets explaining the danger and what to do about it will be distributed

through local safety councils to their safety supervisors and through 38,000 local units of the PTA.

Other campaign plans include: Making available a 20-second sound-strip film to 325 television stations as released by the National Safety Council.

Releasing four radiograms—one each month—to 2,300 radio stations through the National Safety Council.

Distributing posters through the Boy Scouts organization.

Distributing posters and data sheets through county agents and in home safety packets prepared by the National Safety Council.

The Nema sections asserted that the danger increases every year as more and more old boxes are abandoned. They estimate that nearly a million a year are being discarded.

To render discarded refrigerators or freezers harmless, they suggest:

Remove the gasket, hinges, and latch from the door, or

Remove the door entirely, or better still

Destroy the box completely.

If the box is to be used for storage purposes:

Remove the gasket from the door, or

Bore holes through the cabinet to admit air.

If the box is to be temporarily stored:

Remove the latch stop,

Move the box so that the door is against the wall,

Tie a wire or stout rope around the box, or

Where possible, padlock the door.

The manufacturers' groups urged servicemen to be on the lookout for abandoned boxes and to report or render them harmless immediately.

North Carolina Considers Board That Would License Refrigeration Contractors

RALEIGH, N. C.—Following a barrage of critical questions in the North Carolina senate judiciary committee, a proposal for a state board to examine and license refrigeration contractors was sent to a sub-committee for "more study."

The bill, which already has passed the house, would set up a board of seven members dominated by the industry. Attorney Robert Broughton of Raleigh, speaking for the Refrigeration Trade Association, told the committee that his organization "would have no objection to any sort of board this committee might like to make up—we don't deem to be that important."

The bill would apply only to refrigeration firms in towns and cities of 10,000 population or over. Some of the questions probed the possible exclusion of out-of-town contractors.

The Raleigh attorney told the committee that "the refrigeration business has grown up right between the plumbing and electrical trades, which have their licensing boards."

"My group," he continued, "is primarily interested in clarifying their status as it now exists. The proposed bill would provide some clear cut boundary lines."

Prior to consigning it to a sub-committee at Senator Claude Currie's suggestion, the judiciary committee amended the bill to exempt the air conditioning trade. The exemption was requested by E. C. Brooks, Jr., of Durham, as lobbyist for the North Carolina Association of Air Conditioning Contractors.

Ingersoll Will Head Borg-Warner Board

CHICAGO—Roy C. Ingersoll, president of Borg-Warner, has assumed the title of president and chairman of the board following action by the directors of the corporation.

The post of chairman has been vacant since the death of C. S. Davis in Paris, France, in July, 1954.

Prior to Ingersoll's election to the presidency in 1950, he was vice president of Borg-Warner and president of the corporation's Ingersoll divisions.

It was also announced that four new members of the board of directors of Borg-Warner were elected by the corporation's stockholders in their annual meeting here.

All officers and members of the operating committee of the com-

pany, they are: R. S. Ingersoll and L. G. Porter, administrative vice presidents; Robert W. Murphy, vice president and general counsel; and Albert Steg, treasurer and controller.

They succeed Davis; Dean D. Francis, former Chicago investment broker; Howard E. Blood, Detroit, a vice president of Borg-Warner; and Stephen Ingersoll, executive vice president of the company's Ingersoll steel division, all of whom resigned.

Plan Cooling for New Bldg.

MIAMI BEACH, Fla.—A new 8-story, air conditioned office building will be built at Meridian Ave. and 17th St., it was announced by H. Horowitz, president of the 1688 Meridian Avenue Corp.

Window Air Conditioners

Packaged Air Conditioning units—2 to 20 tons

Condensing units up to 100 tons—F-12 or F-22

Multi-Zone Units—serving 2 to 8 zones

Packaged Liquid Chillers—7½ to 100 tons—F-12 or F-22

7 SIZES
2,500 to 12,000 BTU

KRAMER

Kay-Tee

Kramer's constant engineering research and mechanical development gives you . . .

A BETTER COIL for LESS MONEY!

WRITE FOR CATALOG R-230

KRAMER TRENTON CO. • Trenton 5, N.J.

Curtis REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company
1912 Kienlen Avenue, St. Louis 20, Missouri

Other Curtis Products: INDUSTRIAL AND AUTOMOTIVE AIR COMPRESSORS, AUTO LIFTS, CAR WASHERS, AIR HOISTS

829

Now! Ready to Make Money For You . . .

NEW KELVINATOR FREEZERS WITH THE SWEETEST SPACE-SAVING STORY EVER SOLD!



Model FR-18V5

In the new 1955 Kelvinator freezer line you've got the product superiorities, the price flexibility, the solid promotional activities that let you meet and beat competition. You've got the beauty, the quality look that attracts, and the features that close the sale. Yes, in freezers as in every other 1955 Kelvinator product line, you've got more of the stuff sales are made of.

REAL FEATURES:

- ★ Store 630 pounds in only 31 inches of wall space.
- ★ Upright models save up to 400 sq. in. of wall space.
- ★ Drop-Down Shelf-Fronts lock in place for handy sorting shelves.
- ★ Roll-Out Bottom Basket.

- ★ Super-Storage Door—ice cream bar—juice rack, deep storage shelves, Food-Record File.
- ★ Engineered, built, powered to Kelvinator Ice Cream Cabinet standards—unmatched in low-temperature refrigeration!
- ★ 5-Year Warranty on Unit.
- ★ Low-Cost Food Warranty Protection.
- ★ Safety Signal-Light Protection.

Still More of the Stuff Sales are Made of!

In Kelvinator Freezers, people get the things that make them buy. They get: (1) BIG CAPACITY; (2) TIME-PROVED DEPENDABILITY; and (3) REAL UTILITY FEATURES. Moreover, they get these benefits in the most space-saving cabinets on the market today!

PLUS PROVEN PROMOTIONS

Practical promotions that really get down to the job of freezer selling. There are selling plans, with and without food tie-ins, spelled out for you with every promotional and merchandising help you need. And there is one just right for your particular operation.

PLUS PRICES and the DISCOUNT STRUCTURE YOU NEED TO MAKE MONEY!

You've needed a business-minded discount structure—you've needed promotional models. You get them—from Kelvinator!

★ A MODEL FOR EVERY PURPOSE

Brilliant new 12 cu. ft. and 18 cu. ft. uprights—two big capacity promotional uprights—3 chest-models. 7 cu. ft., 10 cu. ft. and a big 15 cu. ft. for special, planned promotions.

Kelvinator *The Most Valuable Franchise in the Industry!*

Division of American Motors Corp., Detroit 32, Michigan

ELECTRIC REFRIGERATORS • ELECTRIC RANGES • HOME FREEZERS • WATER HEATERS • KITCHEN CABINETS AND SINKS • WASHERS • DRYERS
IRONERS • FOOD WASTE DISPOSERS • WATER COOLERS • ROOM AIR CONDITIONERS • DEHUMIDIFIERS • COMMERCIAL REFRIGERATION

Restaurant Show--

(Concluded from Page 1, Col. 5)

A special feature this year will be a decorating and furnishings center. Here four model restaurants will be set up, each designed and decorated by members of the American Institute of Decorators. They are to represent the "last word" in restaurant design and efficiency. Part of the exhibit will be layouts for restaurants and their air conditioning.

The NRA expects more than 30,000 restaurateurs and allied industry representatives on deck.

Manufacturers in the industry exhibiting in the show include:

Partial List of Exhibitors

American Automatic Ice Machine Co.	1538-39
American Gas Machine Co.	1542-44
Anheuser-Busch, Inc.	1021
Bastian-Blessing Co.	917-21
Carbonic Dispenser, Inc.	509-10
Carrier Corp.	915-16
Club-Bar, Inc.	832
Cold Corp.	229
Dunhill Soda Fountain Corp.	1369-70
Elliott-Williams Co.	531
Everfrost Sales, Inc.	D10
Fogel Refrigerator Co.	418-19
Food Equipment Corp.	1347-48
Foremost Fountains, Inc.	353-54
Foster Refrigerator Corp.	108-09
Frigidaire Div., General Motors Corp.	706-09
Frigid, Inc.	189-90
Heat Exchanger, Inc.	976
Herrick Refrigerator Co.	1536-37
Holpoint Co.	114-17

Bogalusia Firm Gets Charter

BOGALUSIA, La. — Bogalusia Air Conditioning & Electric Co., Inc. here has obtained a charter from the Secretary of State to deal in air conditioning equipment.



H. L. TRAVIS



W. L. JEFFREY

Kelvinator Shifts -

(Concluded from Page 1, Col. 4) senior marketing executive of McCann-Erickson, Inc., New York agency, effective May 10.

Jeffrey, former manager of sales planning, has been with Kelvinator since shortly after his graduation from Evansville (Ind.) college in 1930.

Starting as a mail-room clerk he was reassigned to the advertising and sales promotion department, became manager of domestic advertising and sales promotion in 1932, advertising and sales promotion manager for the Leonard division in 1936, and assistant Leonard sales manager in 1938.

Assigned to government contracts at the corporation's Grand Rapids, Mich. plant during World War II, Jeffrey later was named Leonard sales manager, becoming sales manager of all Kelvinator refrigeration and range products in 1952.

For the last year he has been

manager of sales planning, charged with responsibility for all activities in connection with sales planning and development of all current and new appliances and merchandising and selling techniques.

Jeffrey is chairman of the refrigeration section, National Electrical Manufacturers' Association.

With Kelvinator since 1943, Travis has spent more than 25 years with major manufacturers in the appliance field. Much of his work has been in the development of appliance dealers in all types of metropolitan and rural markets and assisting them in the application of sound operating practices.

Travis entered the business in 1927 with Frigidaire, and over 15 years successively held nearly every type of executive field sales position with that company.

He joined Kelvinator in 1943 as manager of metropolitan markets, becoming western regional manager in 1947. He has been manager of retail distribution since 1952, with responsibility for programs dealing with the development of the Kelvinator dealer organization.

In addition, Travis has been responsible for the growth and development of Kelvinator's home laundry equipment division.

Packard, who has had 30 years' experience in the appliance industry, joined Kelvinator in 1940 as eastern sales manager. He was named sales manager in 1944, household sales manager in 1947, and general sales manager in 1952. Last fall, Packard was elected chairman of the Major Appliance Div. of the National Electrical Manufacturers Association.

'Food Club' Ads--

(Concluded from Page 1, Col. 3) tions immediately for dissolution of the corporations involved to protect the public.

National Food Clubs conducted "a huge advertising campaign principally through radio and television," Javits said.

The injunction prohibits the company from advertising freezer and food combinations in a misleading manner, representing that the freezer is being given as a gift, and representing that the consumer will be able to own a freezer and food for what is now being paid for food alone.

Among other things, the company is restrained from representing that plan customers will be able to eliminate the retailer or to buy food at wholesale prices. Also banned is representing that the amount of instalment payment on a freezer is in any way applied to the purchase of food.

In addition, National Food Clubs must not make false representations concerning food price lists nor represent that food will be supplied by its warehouses without indicating clearly the type of food that will be shipped.

Javits said food clubs "have been advertising that the finest cuts of meat are available at 39 cents a pound." Actually, he asserted, the customer has been getting soup bone and stew meat.

According to Javits, savings must be specific. He said this included the actual cutting loss on a bulk cut of meat. Henceforth, he stated, a contract must be provided for a customer as soon as a sale is completed and the contract must be fully made out before the customer signs it.

National Food Clubs said it had cooperated voluntarily with Javits since the beginning of his investigation, was satisfied with results of the probe, and "it anxious to have food club plans policed in the interest of the public."

Prepare for Centrally Pre-Packaged Frozen Meats, Retailers Told

CHICAGO — Food retailers should start thinking about acquiring low temperature cases for the display of frozen meats, Seth T. Shaw of Safeway Stores, Inc., Washington, D. C., advised at a meat merchandising and operations clinic here recently.

The clinic was part of the 24th management clinic for the National Association of Food Chains.

Shaw, who chairmanned the meat merchandising and operations clinic, pointed out that consumers and retailers are changing their attitude toward frozen meats. Both through their increased acceptance of frozen foods and their greater experience with home freezers, they are breaking down their prejudices against frozen meats, he declared.

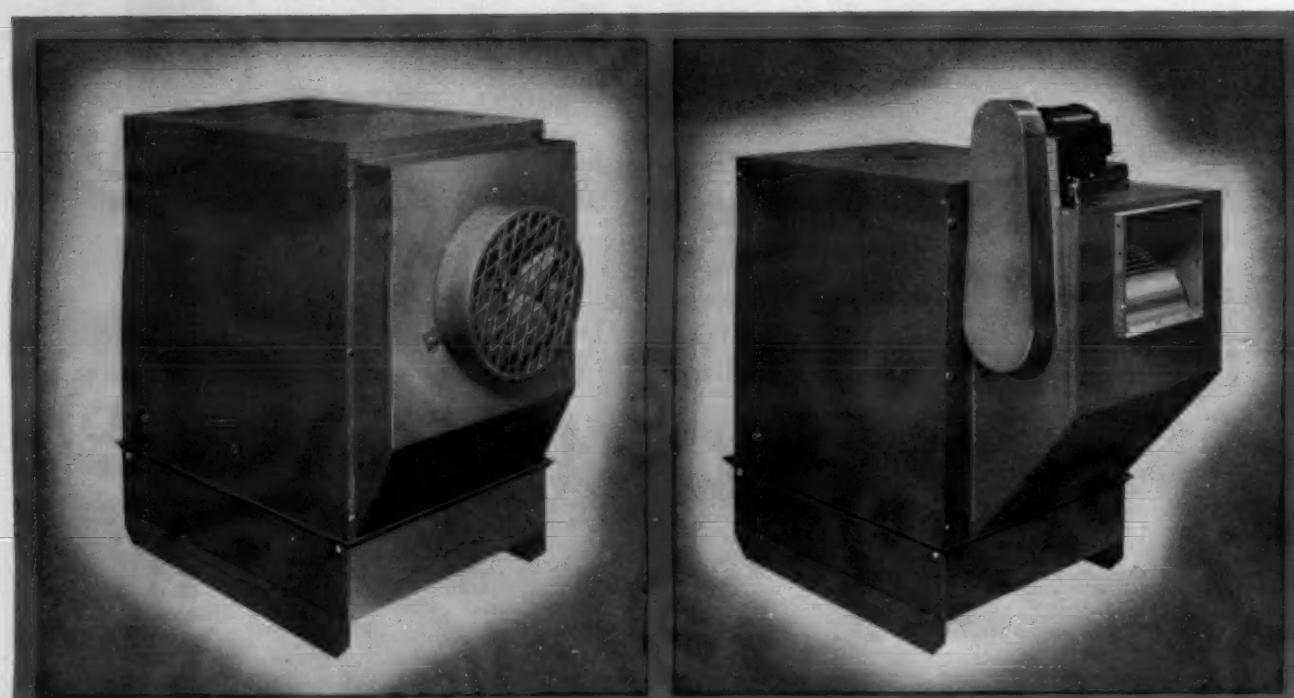
Refrigerator sales accounted for top volume among individual products, and showed an improvement of nearly 54% over March, 1954, but for the first time since Kelvinator entered the home laundry appliance field, washers and dryers achieved second place in total volume. Laundry equipment sales were 61% ahead of last year, Jeffrey said.

Kelvinator moved into the home laundry equipment field in 1953, following acquisition of Altorfer Brothers Co.

Jeffrey said the gains were made without the help of the biggest "guns" in the company's sales armament this year—the "Foodarama," new food-keeping appliance that includes an upright freezer and automatic defrosting refrigerator side-by-side in a single cabinet, and refrigerator and range models in a choice of eight colors in addition to conventional white.

He said output of refrigerators and ranges in color has just passed the dealer sampling stage, and first carload shipments of the Foodarama have only recently been completed.

SMASHING SUCCESS STORY



LARKIN WATER-SAVER COOLING TOWER IS GOING GREAT GUNS ALL OVER NATION

Not since Larkin introduced its now famous Frost-o-Trol® hot gas defrost system has a smash hit like this come along!

The Larkin Water-Saver is THE answer to the growing demand for a high-quality, low-priced cooling tower.

Wholesalers and dealers took to this new line like ducks to water, when it was introduced about a year ago—following more than two years of research and engineering. From coast to coast, the orders poured in—and they keep on coming in, new orders and repeat orders. THIS is the real answer to whether a product's really got it!

Propeller or Centrifugal Models

A feature with wide appeal is that the Water-Saver is available with propeller fan or centrifugal blower. There is a variety of models in each type.

Dealers and wholesalers praise the capacity ratings, the compactness, and the prices that permit competitive selling.

All of these outstanding features are building sales:

Wetted surfaces are of all-heart redwood, with nail-less, interlocked construction. More wetted surface than other towers of comparable tonnage. Bolted construction—unit is easily dismantled in the field—all the way down to the sump. Panels are 16-gauge steel; sump is 12-gauge. Entire unit finished with two coats of baked on corrosion-resistant synthetic enamel. Mastic coated inside. Intake screen available as optional equipment. Motors—two- and three-ton models with fan have direct drive, totally enclosed motors. All other models are belt driven, with drip-proof motors. Propeller fan and blower assembly easily interchangeable in the field. Centrifugal blowers have bronze sleeve bearings; belt-driven propeller fans have neoprene-sealed ball bearings. Stainless steel shafts on belt-driven propeller model. Blowers, propeller fans and scrolls are hot-dip galvanized and dynamically balanced after fabrication. All-bronze float and float valve. Gravity-type distribution basin—low pumping head over tower. Distribution basin cover supplied as standard equipment. Water outlet in sump has large strainer and anti-cavitation plate, easily removed for cleaning.

Dealers: get in touch with your wholesaler now about this great new Larkin line. Wholesalers: get in touch with your Larkin representative, or write us direct, for full information.



LARKIN COILS
INC.

319 MEMORIAL DRIVE, S.E., ATLANTA, GA. — MAIN-3171

ONE MAN can walk
an Air Conditioner
UPSTAIRS ALONE
and put it in the
window without help
with the new L-S
STAIRWALKING DOLLY

write

L-S HTG. & ENGRG. CO.
Philadelphia 40, Pa.
Territories Available

Colored Commercial Display Cases?

Con: Bally Sees Lack of Interest, Benefits Not Worth Problems Caused by Color

BALLY, Pa.—A commercial refrigerator manufacturer here has forecast a considerably diminished interest in the current trend toward use of color in refrigerated display cases.

George M. Prince, partner, Bally Case and Cooler Co., told distributors at a regional conference that there is no future in producing and promoting the use of refrigerated display cases in color.

"Manufacturing cases in color is only going to cause production problems, lower output and increased costs," Prince declared. "Use of color makes a case a custom item rather than a production item, and you know what that does to the price."

Prince advanced the opinion that the decorative value of colored cases is negligible, and is not worth the extra costs and problems involved, either to the buyer or the manufacturer.

"To offer color as a real feature to the buyer, a manufacturer should offer at least five or six special decorator shades," Prince said. "Then, combining all those shades with the dozens of different sizes and models that every major manufacturer builds today, results in such a great number of cases that it becomes a physical impossibility for a manufacturer to keep them all in stock," he said.

Thus when someone orders a specific case in a designated color, he added, the manufacturer is unable to go to a warehouse and supply the case from stock made in quantity at low cost. He can only fill the order as a custom order requiring special handling at increased costs.

"Think of the problems in matching colors," Prince remarked.

"Though our porcelain enameling will never change color, it is very hard to maintain color uni-

formity in the production of certain shades, particularly those in the rose and pink family.

"It is reasonable to assume that there may be some slight difference in shade between the porcelain pro-

duced in January and that made six months later," he said.

Paint finishes which are "far less expensive, less durable, and more frequently used," Prince said, "are most likely to show a change in color as they wear and disintegrate."

If color is to be used in store decor, it should be at the eye level or above," Prince declared.

Pro: Sherer Introduces 4 Colors To Meet Demand of Supermarket Operators

MARSHALL, Mich.—Sherer Gillett Co. reports that as a result of demands from supermarkets for color in display refrigerators, it has announced four available colors in addition to the standard white on its "Lo-Front" self-serve equipment.

The colors are coral, yellow, blue, and green—"all in soft tones that will not detract from the merchandise displayed in them."

The company said it is also responding to this color-consciousness by featuring its frozen food display cases in a coral decor at the Super Market Institute Exhibition in Cleveland in May.

John S. Twist, vice president in charge of sales for the company, said it is not expected that the majority of supermarket operators will ask for color in their refrigerator equipment.

However, judging by installations made to date, when a supermarket operator decides to finish his interior walls in color and possibly add colorful mural decorations, he is very likely to insist on a matching or complementary color for his equipment in order to enhance the sales appeal that color can induce in the average shopper, Twist noted.

It has already been pointed out by the Color Research Institute, Chicago, that sensation transference is an important factor in marketing and that color is an influential item in sensation transference, Twist stated.

Twist also indicated that individual supermarket operators have expressed interest in the use of different colors on refrigerator

equipment, where a specific color would be used as an aid to identify the foods displayed in them.

For instance, green for produce refrigerators, yellow for dairy cases, blue for low temperature displays, and coral for the meat department.

It is said that this departmentalization by colors can help shoppers locate the foods they want more easily once the market has been shopped.

Twist indicated that color did add another factor to production in that it is not always possible to carry in stock sufficient cases of all available colors but that since most installations in color were for new or remodeled markets, ample time for production was usually granted.

Commercial Refrigeration



'Fillup at Billup'
is what signs on buses in Jacksonville, Fla., read. At most of the 25 Billup stations in the city, you can fill up with a cool drink from an Oasis water cooler while getting your car filled with gas. Town folks and tourists do a lot of both.

Refrigeration Puts Dollars Into Farmers' Pockets

ITHACA, N. Y.—Research by U. S. Department of Agriculture, including extensive use of refrigeration, has put millions of dollars of extra money into farmers' pockets by expanding the outlet for agricultural commodities, the annual Farm & Home Week meeting was told here.

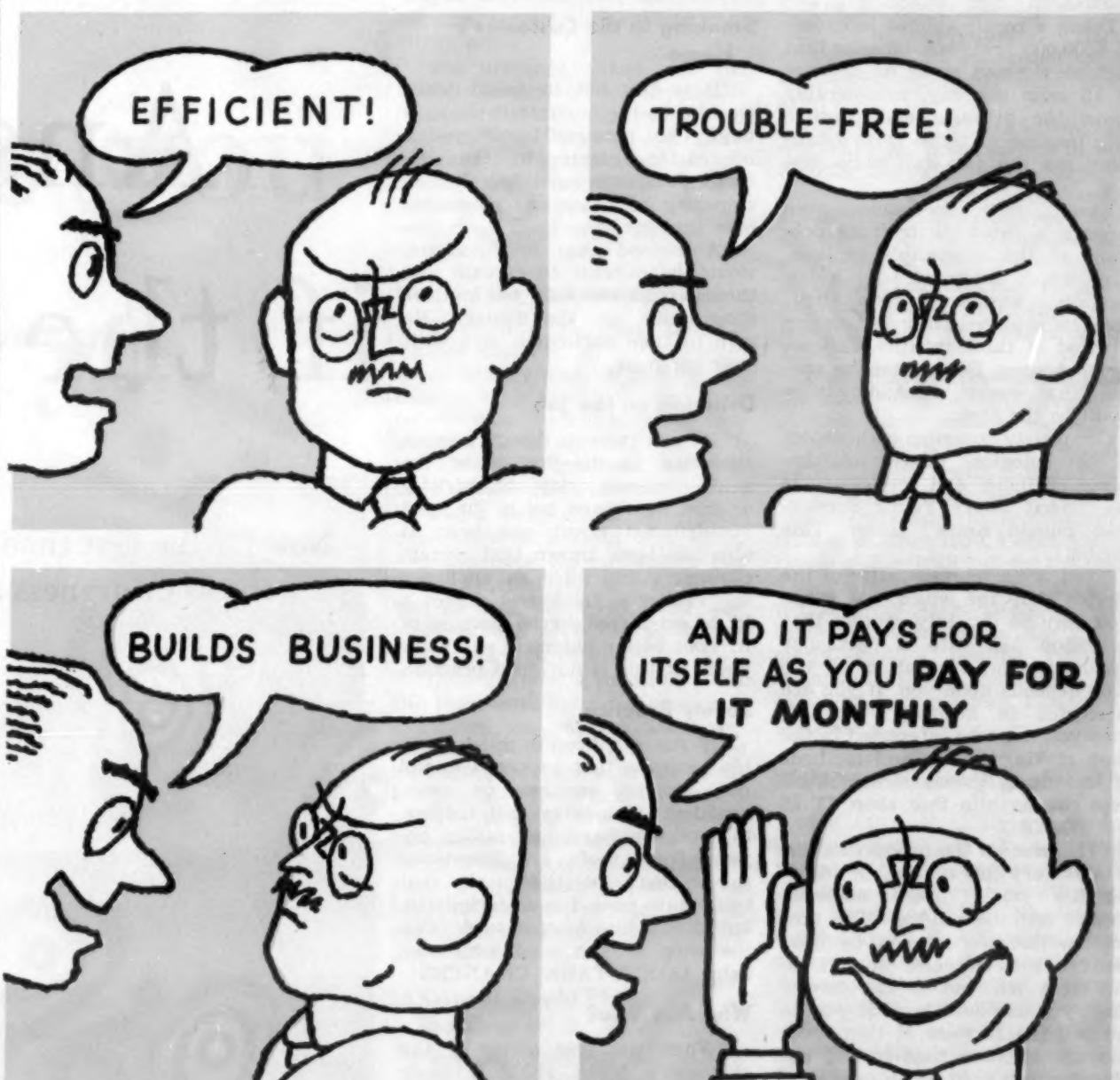
Frank L. Teuton, of the Agricultural Department's Service, said:

"In the food field more than half last year's Florida's orange crop went into fresh-tasting frozen

orange juice concentrate which we developed."

Persons in the audience sampled apples stored for several months in air-tight, refrigerated "modified atmosphere storage rooms" pioneered by Cornell University. They said the apples tasted "as good as those off the trees."

The audience also was asked to distinguish between fresh cut flowers and those preserved for five weeks by a new method of cold storage holding, another Cornell research project.



Institutions everywhere are turning to the "P-H" Line of

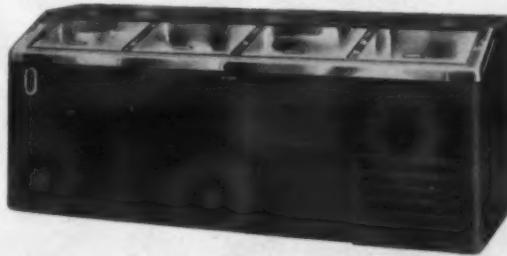
"Lifetime"

REFRIGERATORS IN PORCELAIN ENAMEL OR STAINLESS STEEL FINISH

There are many reasons for the big swing to the "P-H" Line—America's finest quality commercial refrigerators. Most important are the quality construction features, many of them exclusive, that make "P-H" Refrigerators more efficient, longer lived and less costly to maintain. They include: Genuine Porcelain or Stainless Steel Finish . . . Patented "Grad-U-Matic" Air Conditioning . . . Sag-Proof Door Construction . . . Tubular Electric-Welded Steel Frames . . . Heavy Fiberglass Insulation . . . Solid or Triple Thermopane Doors . . . Automatic Self-Defrosting Refrigerating System . . . Underwriters Approved. Whatever your food requirements may be it will pay you to investigate this famous line at your "P-H" dealers.



(Illustrated) 6-DOOR PASS-THRU REFRIGERATOR—also available in 9 and 12 Door models—adjustable shelf racks or tray slides.



8 FT. DRY BEVERAGE COOLER, self-contained model illustrated . . . six other models available in 50 in. to 10 ft. sizes, remote or self-contained.

Write for Catalog!

A complete line of Reach-In Cabinets, Dough Retarders, Bakers' Freezers, Dairy-Delicatessen Cases and Walk-in Coolers and Freezers also available.

PUFFER-HUBBARD REFRIGERATOR CO.
GRAND HAVEN, MICHIGAN
EXPORT OFFICE: PUFFER-HUBBARD INTERNATIONAL —
440 Lafayette St., New York City — Cable "MANREFSUP"



Selling takes time—

Time makes selling easy!



To clinch more sales in less time, quote a monthly payment, not a total cash price. Many of your prospects need their working capital and usual lines of credit for current operations. No matter how much they need your equipment, they probably won't sign your order now unless you show them a convenient, practical way to pay. That's the COMMERCIAL CREDIT PLAN way. When can we tell you our story? Phone our office in your city or write COMMERCIAL CREDIT CORP., 14 Light St., Baltimore 2, Maryland.



**COMMERCIAL
CREDIT
CORPORATION**

A service offered through subsidiaries of Commercial Credit Company, Baltimore . . . Capital and Surplus over \$175,000,000 . . . offices in principal cities of the United States and Canada.

Good Personal Impressions, Customer Relations Help Insure \$300,000 Volume

'What Every Young Serviceman Should Know' Provides Guide

PHOENIX, Ariz.—Writing a four-page mimeograph folder entitled "What Every Young Serviceman Should Know" is the means by which "Whitey" Brayer, operator of one of the largest appliance service organizations in the southwest, has insured that every mechanic makes an excellent impression on the customer.

"Every user of a product that requires service is inclined to think of the company in terms of the mechanic who calls at his house or place of business," Brayer indicates.

"Therefore, we have bent over backwards to not only see to it that our mechanics are immaculately uniformed in white coveralls, have a shine on their shoes, and a haircut, but that their customer relations bring credit to the firm."

Brayer, who employs some 50 people, operates 11 two-way radio-equipped service trucks, and an airplane for remote calls out in the far-flung Arizona communities south and west of Phoenix, has put a lot of personal experience into his folder, which, in effect, is a customer-relations training manual.

Doing a repair volume in excess of \$300,000 per year, he asks that each serviceman make an average of 15 calls per day, considerably above the average, and possible only because of tight, close scheduling via the two-way radio system.

Every new mechanic goes through a two-week training program at the company's expense, after which he must take a 50-question written examination. Then, he is placed on probation for a period of three months. Following that time, Brayer can be certain that every mechanic is a credit to the firm.

Completely covering each aspect of psychological relationship between customer and serviceman is the "What Every Young Serviceman Should Know" folder. This begins . . .

"You are a representative of the service shop for which you work. You may be the only contact that the shop has with a particular customer. The reputation of the shop depends upon you. If you are interested in keeping your job, then you must be interested in the shop making money and methods of increasing the amount of business coming into that shop. IT IS UP TO YOU."

"The man on the production line of a factory has no way of insuring his job, if some salesman doesn't sell the product. The production line worker can be fired because someone else doesn't do the right job, but in the service shop, you are both men. If you do not sell the services of that shop, you are the one that is laid off. Whether you hold a job next year depends upon YOU."



REMOTE SERVICE CALLS for from Phoenix are handled with aid of company plane.

"Here are some rules of conduct that appliance servicemen have found acceptable anywhere:

Personal Appearance

Before going to work be sure to check your personal appearance. Clean clothes, hair neat, clean shave, clean hands and fingernails are ways of making an excellent first impression. Not only does the customer respect you, but you have no reason for apologizing to the customer. You can feel self-confident. Self confidence is important to anyone meeting the public. People admire a man with self-confidence.

Smoking In the Customer's Home

"It is best not to smoke when working in the customer's home. It might be permissible, if you're offered a cigarette by the customer, but care must be taken in disposing of ashes and placement of a lit cigarette.

"A burned rug, or furniture, would be difficult to explain and the customer can hold you and the shop liable for the damage. Be sure to take particular care with your cigarette.

Drinking on the Job

"Do not accept liquor from a customer. In the first place, the next customer may be strictly against liquor and not in the least broadminded about one beer. It also has been known that certain customers will offer an appliance serviceman a drink and expect a lot of extra free service because of it. Your better judgment will show you that this is not good practice.

Safety Practice

"If you will keep in mind possible accidents that happen, you will not become careless or overconfident. Remember that ladders, high-tension lines, and falling objects from roofs are sometimes fatal. Don't be that man that could have been a good technician, but didn't live long enough. Call the shop if you need additional help. DON'T TAKE CHANCES!"

Who Are You?

"When you first arrive at the customer's home, she has never seen you before. The housewife is not quite sure if you, a stranger, should enter her home. Door-to-door salesmen take great pride in their ability to get into the home to sell the customer.

"The good salesman does this so smoothly that the woman of the house hardly knows it has happened. If you can enter the home, without doubt you will be more likely to bring the appliances to the shop. Let's take a tip from the good door-to-door salesman.

Address The Customer By Name

"All good salesmen know that people would much rather be addressed like this, 'Hello, Mrs. Jones,' instead of 'Are you the lady of the house?' This also will help you save time if you should happen



ELEVEN TWO-WAY RADIO-EQUIPPED service trucks help each serviceman make an average of 15 calls per day. Calls are plotted on big wall map of Whitey's territory.

to get the wrong address.

"If you should say, 'I'm here to fix your appliance,' and she says, 'I don't want my appliance fixed' you can see where this could go on for quite a while before the two of you realize that you have 24th street instead of 24th place. Always address the customer by name, 'Hello, Mrs. Jones.'

Identify Yourself

"I'm the Whitey serviceman." This immediately lets the lady of the house know that this is not just a strange man calling on her, but a company. The company is

not a stranger to her. The name of the shop you represent is a password that will let you in her home, such as 'Hello, Mrs. Jones, I am the appliance man from Whitey's. I understand you're having a little trouble with your refrigerator.'

Don't Forget Your First Impression

"It is not always easy for the serviceman to locate the appliance in the home, its electrical connections, or to display familiarity with it. The customer automatically

feels that if the serviceman does not seem to know these basic facts, he could not possibly be qualified to repair its more complex parts.

"One way around this is to ask the customer to show you the trouble they are experiencing, such as 'Would you mind showing me how the trouble demonstrates itself?'

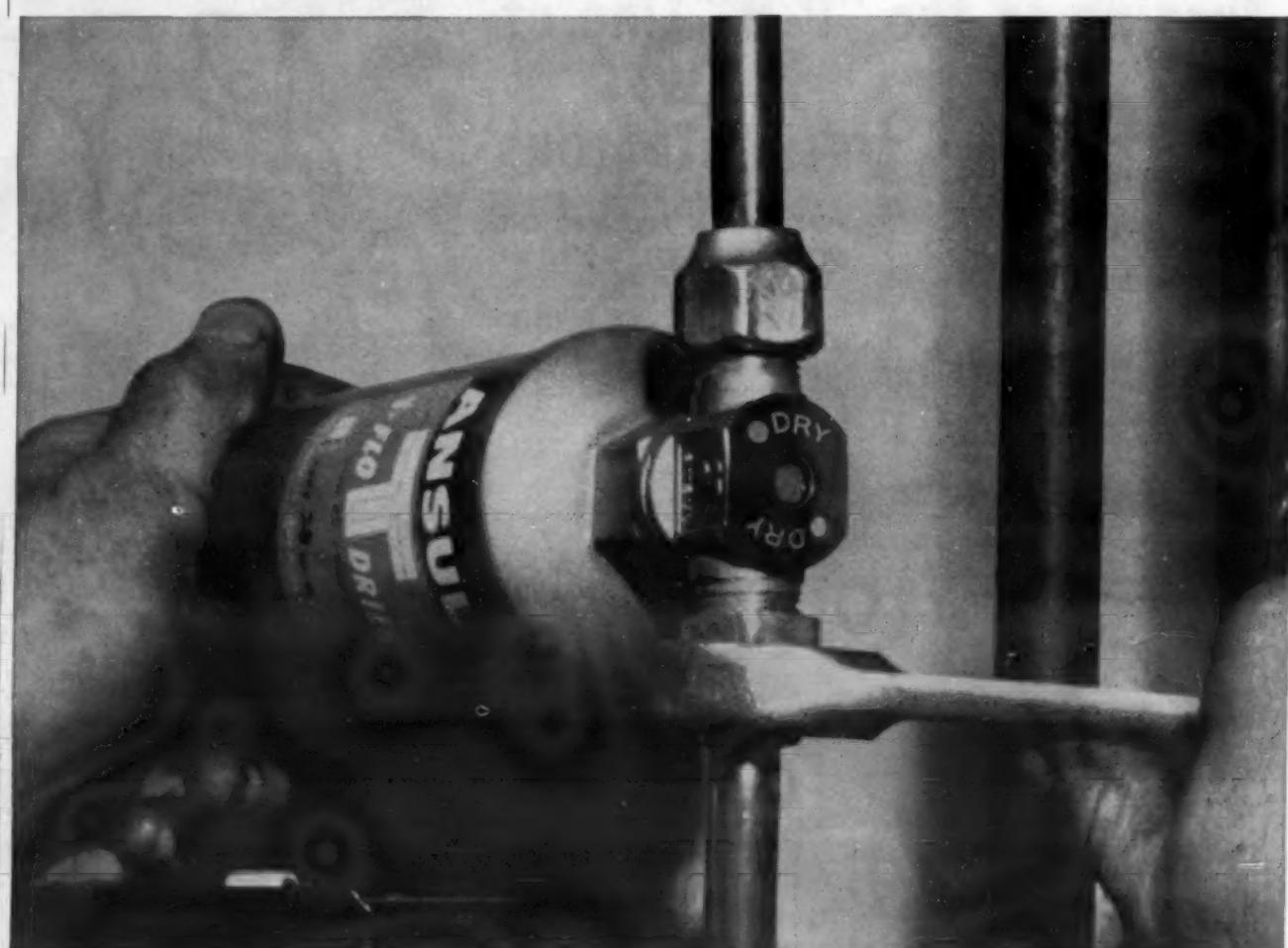
"If you would like to cinch this bet, try this: Watch the customer make use of the appliance, what-

(Concluded on next page)

Ansul Dry-Eye

if the refrigerant

Now for the first time you have a permanent working tool that shows wetness or dryness at a glance...controls moisture, removes acid.



Here is the new Ansul Dry-Eye System being permanently installed in a refrigeration line. The pink color in the Dry-Eye Connector window will change to blue when the

T-Flo Dry-Eye Cartridge removes the excessive moisture. Once the Dry-Eye System is installed you can replace the Cartridge without breaking the line.

ROTARY SEAL

Replacement Units

Available in a wide size range for Commercial, Semi-Commercial, Air Conditioning and Home Refrigerators.

EASY TO INSTALL • ECONOMICAL

AT ALL LEADING FABRICATORS

THE ROTARY SEAL COMPANY, INC.

2026 NORTH LARRABEE STREET, CHICAGO 14, ILLINOIS, U.S.A.



SHOE SHINE MACHINE helps serviceman keep appearance top notch.

(Concluded from preceding page)

ever it may be, and in all too frequent instances, it will be found that merely her unfamiliarity with the appliance is the root of the trouble.

Good Social Conduct Is Good Business

"The rules of social conduct are not new or different rules in appliance servicing. They are the same rules that all people use when meeting a stranger for the first time. They're rules of conduct that are acceptable in general society.

"People classify you by your appearance and social conduct. If you look and act the way they expect a serviceman should, they will assume that you know a great deal about refrigeration. You are a highly skilled technician, so you are expected to have social standards that are above average.

Respect the Customer's Point of View

"The customer may have some very poor concepts of how an automatic washer works, or how to operate it. He has worked hard to

get these few bits of misconceptions; don't smash his months of work with one sentence. If you do, he won't like you or your ideas. Break the news to him gently and not in a positive manner.

"Always keep in the mind that the customer is the one who indirectly pays your salary. If you let him express himself, you may get some helpful clues and the customer feels important, which makes him glad he called your shop. Being a diplomat is respecting the customer's point of view.

Follow The Golden Rule

"It is just as important for you to be on time when you are making a service call as it is for the customer to be home. Promise work done only if you're sure that you can repair it in that length of time. Customers become very displeased when delayed in deliveries.

"You must always remember that you are an agent of the shop, and the agreements made by you to the customer are binding to the shop. Be sure that the agreements you make with the customer are agreeable to the owner of the shop, as to the price, time, and guarantee of work.

"If you do not know the fault in the refrigerator, or you are not sure, do not bind your shop to a price on that job. Give the customer a definite answer as to the trouble and only if the customer insists, tell him you will call him as soon as you know the cost of the needed parts.



Service & Supplies

Tipping

"There are two ways of looking at tipping. The first is the obvious one. 'The bird in the hand, etc.' The second is that you never tip a doctor or lawyer. The reason you never tip a lawyer or doctor is that you never tip anyone of a higher or equal economic level.

"The minute you accept a tip, you're classifying yourself lower than the person who tips you. Also, many customers will give a 50-cent tip for an hour's free work. The shop you work for may have a rule against tipping—you can see why.

Don't Criticize

"The only thing knocking a competitor ever accomplished was to lower the customer's opinion of the entire appliance industry. It is also possible that you might have been the last person to work on that refrigerator.

Don't Get Involved In 'Long-Winded' Discussions

"Long discussions consume time which neither the shop nor the customer are too willing to pay for. If a question is asked that needs a technical answer, give simple, short answers and forget all the possible exceptions that might arise.

"For instance, 'How can the freezer section of a refrigerator be so much colder than the rest of the box?' Simply point out that a separate coil system and thermostatic controls supply the proper amount of refrigeration to each section of the box to provide the desired temperature.

Respect the Customer's Home

"Footprints Do Not Lead to Future Business. Muddy footprints leave a very bad impression. Be sure to wipe your feet every time before you enter a customer's home, rain or shine. Be sure to leave rubbers, raincoats, and wet tools outside the customer's door.

"Use a Drop Cloth. By placing your tools on a clean drop cloth, you will save the customer's rug from dirt, and the shop's reputation as well. The tools and equipment should never be placed on floors, rugs, or furniture.

"Give Yourself a Break and Not the Furniture. Before any work is attempted on any appliance remove anything from the top, move all chairs, tables, etc., away to allow plenty of room to move around without banging into the kitchen furniture. You must have clean hands before you handle the customer's equipment. Do not wear black or composition soles on your shoes, which are almost certain to mark up the floor and rugs.

In Case of Doubt Phone The Shop

"This is a good rule, but be sure to ask the customer for permission before you use her phone. Housewives are fussy. Yes, housewives are very fussy about their bathrooms and guest towels, so it is always a good rule to avoid using them and always be sure to leave every room in the same condition as when you arrived.

Final Check

"Your service job is to make a good impression after you leave the home. You must insure that with a final check.

A Five-Point Final Check

1. Be sure that there are no dirt or fingerprints left on the appliance.
2. Be sure to wipe off everything you have touched.
3. Be sure that the cord is plugged in and no loops left out.

on the floor.

4. Be sure that all refuse is picked up.

5. Be sure that everything in the room is replaced to its original position and that everything is in order.

Public Relations

"Large companies spend thousands of dollars to develop the right type of attitude in the public mind. They know, like all businessmen, that the best form of advertising is a personal recommendation of the product or company from one friend to another.

"Whether or not a person gives a favorable impression to his neighbor about the company you work for depends upon you. You, the serviceman, are the public relations man for your shop. Your security, in your job, starts with your ability to please the customer."

Honeywell Names Three Regional Managers for Home Products Div.

MINNEAPOLIS — Appointment of three regional sales managers in Minneapolis-Honeywell Regulator Co.'s newly-formed Home Products Div. is announced by R. H. Jacobs, divisional sales manager.

They are W. H. Christensen who will make his headquarters in Los Angeles and will be in charge of seven Pacific and north coast states; E. J. Regan who will have charge of 13 southwestern and mountain states and will be located in Dallas; and Harrison D. Kurtz who will head sales in eight midwestern states with offices in St. Louis.

They will have responsibility for the sales of Honeywell equipment to the home builder market in their respective areas.

Christensen, with Honeywell since 1935, has been Pacific regional manager of heating controls sales since 1950. Regan joined Honeywell in 1949 and for the past four years has been regional heating controls sales manager with headquarters in Dallas. Kurtz formerly was a heating controls salesman in the company's St. Louis office. He joined Honeywell in 1953.

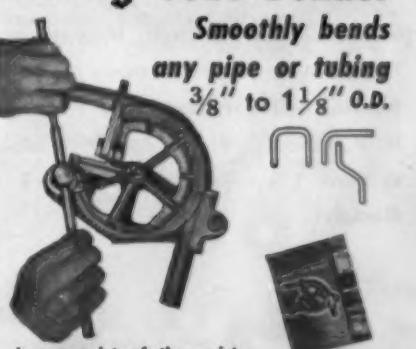
Wolverine Names Humphrey

CHICAGO—E. C. Humphrey, Jr. has been appointed sales representative in the upper peninsula of Michigan, northwestern Wisconsin, Minnesota, and North and South Dakota. E. J. Campbell, midwestern district sales manager for Wolverine Tube, Div. of Calumet & Hecla, Inc., announced recently.

Formerly a sales representative for American Machine & Metals Co., Humphrey will headquartered in Wolverine's Minneapolis office.

Handy Tube Bender

Smoothly bends
any pipe or tubing
3/8" to 1 1/8" O.D.



Just a twist of the wrist assures perfect, even, right-angle, U and offset bends. Save enough on ONE job to pay for your HANDY BENDER.

See your supply house—or write for free folder today.

HOLSCLOW BROS., INC.
428 N. WILLOW RD.—EVANSVILLE, INDIANA

System tells you is wet or dry!

the Dry-Eye Connector window shows changes from pink to blue

No more guessing—now you can know scientifically if the refrigerant is *wet* or *dry*. If the Dry-Eye Connector shows *blue*, the equipment is in a safe operating condition. If the window shows *pink*, excessive moisture is present—a scientific sign that it's time to take action. To remove the moisture simply change the T-Flo Dry-Eye Cartridge. That's

all there is to it. By taking the guess-work out of refrigeration servicing the Dry-Eye Connector cuts callbacks, helps you do a better, more profitable job. It can build new business for you, too, by building your reputation for quality work.

The glass window in the Dry-Eye Connector is guaranteed leakproof at maximum operating pressures.

T-Flo Dry-Eye Cartridge controls moisture, removes acid

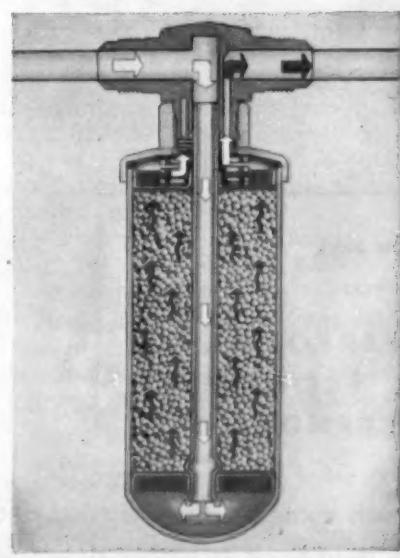
A drier should do both for you—dry deeply and remove acid. Andrite, the drying agent used in the T-Flo Dry-Eye Cartridge, is superior to all other popular desiccants in the deep drying range. This is the range which determines the quantity of desiccant to be used. As for acid removal, Andrite will pick up 4.5% its weight in acid when completely saturated with water.

Performance like this means you can provide better service at a lower operating cost. The extraordinary drying capacity of the T-Flo Dry-Eye Cartridge allows you, in many

cases, to install smaller driers than the ones you are now using. Replacement is faster and easier, too, because the T-Flo Dry-Eye Cartridge screws in place like a light bulb—line breaking is not necessary.

Test-try the Ansul Dry-Eye System on one of your "problem" units. See if it doesn't make servicing easier, more profitable. Contact your local Ansul wholesaler for a supply of the Dry-Eye System.

ANSUL CHEMICAL COMPANY, Dept. D-11, Refrigeration Division, Marinette, Wisconsin.



Install the DRY-EYE SYSTEM on old and new units



ANSUL

Commercial Refrigeration

TRRF Approves Study of Frozen Bakery Products, Vapor Movement In Warehouses

WASHINGTON, D. C.—Two new projects—problems of vapor movement in cold storage warehousing, and frozen bakery products—have been approved by the Scientific Advisory Council of The Refrigeration Research Foundation, according to the National Association of Refrigerated Warehouses.

Also, a dozen warehouses have been selected for detailed study of the factors involved in frost heaving of floors.

It was reported, too, that lighting equipment was studied and tested in the National Terminals plant in Cleveland in both cooler and freezer rooms, including a new lamp for street lighting and standard fluorescent lamps.

Engineers agree that while savings in general storage rooms are not highly significant, they can be important in rooms of larger requirements such as break-up rooms," it was pointed out.

"Thus the advantages for fluorescent lights, such as lower operating, maintenance, and refrigeration-load costs (in spite of higher

installation cost) can be realized with the new lamps.

"Those planning new warehouse construction will be interested, but modification of existing plants, especially multi-story buildings, may not offer a particularly favorable prospect because of difficulties in modifying wiring and outlets already in place."

Frozen Fish Food Is Big Business with Fish Fanciers

ROCHESTER, N. Y.—Refrigeration is causing an upheaval in the million dollar fish-food industry, tropical fish hobbyists were told.

Here for the first northeast regional meeting of aquarium societies, some 400 fish fanciers heard Dr. Leon F. Whitney of Yale Medical school explain that thousands of tons of eggs are frozen annually to feed guppies and their cousins.

"Frozen food for fish is big business and it's getting bigger all the time," he asserted.

New Refrigerated Fixtures Pay for Themselves

Remodeled Market Finds Frozen Food Sales Rise 30%, Fruits, Vegetables Up 20%

LINCOLN, Neb.—Frozen food sales have been increased 30% and fresh fruits and vegetables sales 20% by tripling the cubic footage devoted to frozen foods and converting to refrigerated cases for green vegetables at Handy-System Market No. 4 here.

Matching cases were put in for fruits, adjoining the vegetable section.

Remodeling of the supermarket was started about a year and a half ago after a study of traffic and sales volume in the various departments, according to Walter Vesticka, head of the Handy-System chain of four "supers" in Lincoln.

The increasing demand for frozen foods was noted and two additional 6-ft. Hussmann cases added. A 10-ft. Hussmann reach-in case was installed for green vegetables.

Response in the two departments where new refrigerated reach-in vending cases were added was immediate, Vesticka stated. During the past six months, nearly a third more frozen foods have been sold than in the corresponding period before the modernization.



NEW FLOOR ARRANGEMENT at Handy-System Store, Lowell, Neb., features reach-ins along entire east side of store. Refrigerated produce case is at right angles at back.

Vegetable and fruit sales have jumped about one fifth for the same period. Refrigeration moreover has reduced spoilage and manhours required for maintenance in green vegetables, according to the supermarket executive.

Potential sales volume has been increased about 40% by the remodeling project, he added. This has been accomplished without adding to the over-all dimensions of the market.

An important factor in the increased potential was the remodeling of the center islands. One tier was added to each island, providing nearly a fifth more display on the floor of canned goods and the like.

Checkout potential was increased by installing an automatic system with moving belt at one stand. This has proved so successful that Vesticka plans to convert the other checkout stands to automatic. New supermarkets built by the firm also will use automatic checkouts.

The traffic study conducted at the store indicated that frozen foods and fruits and vegetables were the items showing the greatest increase in demand. Vesticka figures that the additional refrigerated equipment already has paid for itself in these departments.

The new floor arrangement features refrigerated reach-in cases along the entire east side of the store, with the exception of 20 ft. for fruits and dry vegetables. Vending fixtures for the latter, however, match the refrigerated cases in design and color to give uniformity and eye appeal to the display line.

Multi-tier reach-in cases for eggs and dairy products are included in the east-wall battery. The refrigerated case for green vegetables is as the back of the store at right angle to fruits and dry vegetables.

It adjoins the meat department, thus providing refrigerated display along most of two sides of the super.

Part of the remodeling project was the rearrangement of display facilities along the west side which fronts on 13th St., Vesticka pointed out. Fruit and vegetable bins formerly located in front of the windows were discarded. This provided one-third more display space for fruits and vegetables and at the same time gave needed space for display of cleaning supplies, etc., along the west side.

Other improvements included "daylight" fluorescent lighting fixtures.

Commercial, Air Conditioning Distributors Show February Sales Rise 6% over January

WASHINGTON, D. C.—February sales of air conditioning and commercial refrigeration equipment distributors were down 5% from a year ago but up 6% from the previous month, according to the monthly wholesale trade report of the Bureau of the Census.

Their sales for the first two months of the year declined 4% compared with the like 1954 period, the report showed. Inventories of these distributors at the end of February were 4% less than a year ago and 1% higher than on Jan. 31.

Sales of distributors of electrical appliances, TV and radio sets and parts, and electronic parts and equipment in February rose 10% compared with February, 1954, and were up 3% from January. For the first two months of 1955, their sales climbed 8% above the year-ago period. End-of-February inventories were down 3% from a year ago and up 3% from Jan. 31.



EASIEST TO SELL

FOR DESIGN, ECONOMY AND EFFICIENCY!

The new Thrif'aire is the better cooler—better priced—better capacity. Exclusive "plug-in-panel" refrigeration unit—gray baked enamel—42" to 62" lengths—"slide away" doors.

Roll up greater profits with a La Crosse Direct Draw. Refrigerated faucets guarantee perfect beer temperature from keg to glass—no more excessive foam or morning "draw off." Sell the leader—sell La Crosse!

VISIT LA CROSSE BOOTH 1566-67—NATL. REST. SHOW—NAVY PIER CHICAGO, MAY 9 TO 13

WRITE TODAY - FOR COMPLETE INFORMATION.

LA CROSSE COOLER COMPANY

Factory and Gen'l Offices: 3000 Losey Blvd., So., La Crosse, Wis.
Export Office: 80 Broad St., New York City. Cable Address: Eximport.

... and you'll see why
Servel gives you
★ BETTER PERFORMANCE
★ GREATER ECONOMY
★ MORE DEPENDABILITY

Where else can you find such a combination of tried and proved advantages? Each is in itself a highly desirable feature. Call on Servel NOW for applications assistance in planning your refrigeration requirements. There's a factory representative in your area. Wire, write or phone us today.

SERVEL, INC., Commercial Refrigeration Division, Evansville 20, Indiana
THE NAME TO WATCH FOR GREAT ADVANCES
IN REFRIGERATION AND AIR CONDITIONING

Servel

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)

rivals the quote of Mr. Johns. It came from a play some years ago. I believe Ruth Jones wrote it. Had to do with a father on a low salary, with a dreamy daughter, and impractical wife who always exceeded the budget.

At one stage papa said:

"All I know about money is that I've never been in a situation where money made it worse."

LEON HENDERSON

Whose Bruised?

Here's interesting information out of our incidental-intelligence file. It's also out of season, being a Christmas-time item, but we pass it on anyway.

Those bell-ringing Salvation army "kettle girls" you see during the yule season don't set up their kettles just anywhere in a business district. Seems there are "hot" spots and "cold" spots when it comes to raising money.

"Coldest" spot for getting nickels in the pot is a corner. Here,

people are concentrating on getting across the street. So it's pretty tough to get their attention, let alone their money.

Not much better is the area in front of a women's specialty shop. And we hardly need tell you why. Here, the ladies have only one thing in mind—buying a new hat, or whatever. And nothing—but nothing—is going to divert mama from her mission—even for the time it takes to toss a coin in the kettle, which she probably doesn't even see!

So where's the best spot for a pot? By the middle door of a large department store, the Salvation Army has learned.

People who use the center door have no specific objection in mind; they're just shopping in a general way, and thus can turn their thoughts from buying to giving.

More on Selling

American stores are the best and biggest in the world, according to a recently book, "The Great Merchandisers," by Tom Mahoney.

"Nowhere else," writes the author, "have competing retailers of every kind gone to such lengths to guarantee satisfaction to every customer."

American retailing institutions "lead the world in advertising, the use of electric lights, plate glass, air conditioning, self-service, credit, parking lots, and other devices for painlessly bringing together buyers and sellers, and causing yester-

day's luxuries to become regarded as today's necessities."

Biggest store under one roof is the 2,157,330-sq. ft. 34th St. main store of Macy's, New York City. Next in size is the J. L. Hudson Co. in Detroit. Its 25 stories make it the tallest department store in the world. Third in space is Marshall Field in Chicago.

Hudson's and Macy's have the largest switchboards among business customers of the Bell telephone systems. On trunklines Hudson's leads 553 to 536. Macy's is ahead on extensions, 2,500 to 1,341. Only the boards of the Pentagon building and the Bell System itself are bigger.

Hudson's Northland—a fabulous operation—opened last year. It has 1,317,030 sq. ft. of roofed space and paved parking for 7,500 automobiles. So far as we know it is the largest suburban shopping center built to date.

Filene's of Boston is "the world's largest specialty store" and is credited with pioneering the Charga-Plate, cycle billing, credit unions, school fashion boards, and the bargain basement.

"The Great A & P" is rated as the largest food retailer, the biggest exponent of chain operation and the biggest retailer of any kind. Its present sales total some four billion dollars a year from 4,180 unpretentious stores, 2,200 of them supermarkets, so devoid of frills that they are simply machines for selling food." The book credits part of the A & P success to its accounting system, "one of the best in the world."

Sears Roebuck & Co. is honored as "the world's biggest general store" with sales of three billion dollars a year, honored branches in Latin America, and operations in Canada through Simpsons-Sears, Ltd. Sears is credited with innovations in relations with manufacturers, catalog selling, public relations, and the largest employee profit-sharing pension fund in all industry.

The J. C. Penney Co., with 1,650 stores and annual sales of more than a billion dollars, is declared to be the world's largest seller of soft goods. Although this firm limits salaries to \$10,000, it has a profit-sharing plan under which eight executives each earned \$103,446 in 1953.

Invention of instalment selling is credited to the Singer Sewing Machine Co., which also pioneered the export of American manufactured products to every hamlet everywhere on earth. (National Cash Register might dispute this claim.) Singer machines were being sold on a systematic monthly payment plan as early as 1856.

The Hudson Bay Co., chartered in 1670, is listed as America's oldest retailer and also as the oldest trading company in the world. It is older than the Bank of England. While it continues the romantic fur trade, its retail stores now account for half of its more than \$197,000,000 a year sales volume and 65% of its profits. It is possible to buy a marriage license or a ton of coal in the Hudson Bay department store in Winnipeg. Oil also has been found on this venerable company's land.

Brooks Brothers is "America's Oldest Clothing Store." Brooks is credited with clothing five generations of the J. P. Morgan family.

Lane Bryant also is included as the pioneer of maternity and special size apparel.

Chapters of "The Great Merchants" also are devoted to Tiffany's, the 118-year-old New York jewelry store; F. & R. Lazarus & Co. of Columbus, Ohio, and its associated stores in Cincinnati and elsewhere; Brentano's, "book sellers to the world"; Rich's of Atlanta, largest store in the South; Neiman-Marcus of Dallas; Ohrbach's of New York, Los Angeles, and Newark; and Webb's City, "The World's Most Unusual Drugstore" of St. Petersburg, Fla.

Worth your reading.

Out of Our Mailbag

733½ East Riverside Dr.
Evansville 13, Ind.

Editor:

Your Ignace Paderewski story, George, in the April 4 "Inside Dope" column reminds me of one that actually happened to me.

A Cedar Rapids, Iowa, hotel coffee shop featured an "ALL Cedar Rapids breakfast for only 95¢." It included pancakes and syrup, sausage, oatmeal, etc. In each case, the item on the menu was followed by the name of the local producer or processor . . . even to the name of the dairy supplying the cream and butter.

"Swell boost to civic pride," I told the waitress. "Bring it on!"

She did . . . starting with a glass of orange juice and a cup of coffee.

"Just a minute," I stopped her. "Are these on the ALL Cedar Rapids breakfast?"

"Yes, sir."

"Well," I replied. "I have to run down to Des Moines as soon as I finish here. Never had the pleasure of seeing an orange grove. So, if you'll tell me where it is, I'll stop by on the route out and see where this Cedar Rapids orange juice comes from."

"Oh," she replied very sweetly, "You won't have any trouble at all finding it. It's right next to the plantation where I got this coffee." And—away she sailed to bring the rest of the breakfast.

(Like your Paderewski story,

there's a moral here too. Apparently it is: "Even if you get up before breakfast to pull a 'slicker'—don't try it in Iowa or it will backfire!"

AL GOLAY

Refrigeracion Electrica
Kelvinator
Arellano Co.
S. A.
Paseo De Marti No. 203
Habana

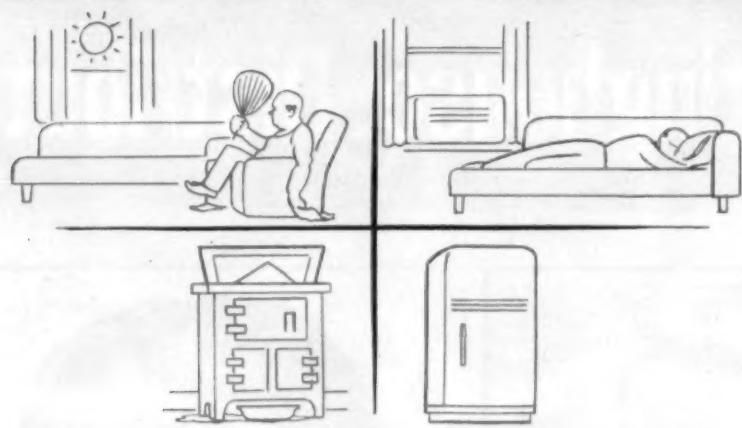
Editor:

Going home to lunch, I nearly choked on the one about the teacher spelling the word f-e-e-t . . . my seat companion probably thought I was nuts or something, because for the rest of the trip he kept peering at me in a funny way.

Do you know the one about the crazy Chinese and the Sanitarium Director? . . . Well, here it goes:

They were building an addition to the Havana Insane Asylum, and the Director had suggested that the inmates should carry the sand from the dump trucks to the job in small wheelbarrows, to keep them busy and quiet. So one afternoon, while he was doing his daily walk, he noticed a Chinese going back and forth between the trucks and the job, but his 'barrow was upside down. . . . Intrigued, he queried the Oriental about his behavior, and "You think Chinese crazy, no? . . . so they can fill it with sand! . . ." Might be a dud in English, but is pretty funny in Spanish.

ANTONIO V. ALVARADO



HIGHLIGHTING The Air Conditioning and Refrigeration Industry

Yesterday, the fan—today, air conditioning. Yesterday, the ice box—today, refrigerators and home freezers.

Every day, air conditioning and refrigeration manufacturers contribute even more to high standards of living, health, comfort and convenience. The industry, as a result, has grown by leaps and bounds.

Wolverine Tube has grown too. A major portion of our research and modern facilities have been devoted to developing and improving tubing and tubular products specifically for the refrigeration and air conditioning industry. Such products as Wolverine Capilator*, Wolverine Trufin*, the Wolverine Spun End Process and Wolverine Refrigeration Tube (all described across the page) have helped in producing better equipment at lower cost.

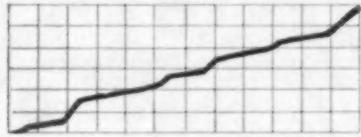
Yes, Wolverine's growth has paralleled that of the refrigeration and air conditioning industry. We are proud of our mutual achievements and look forward to the progress through performance that we will share in the years ahead.

You'll be interested in Wolverine's Refrigeration Tube Catalog. Write for your copy now. It's full of information you can use.

On your next order specify Wolverine tubing and tubular products produced precisely for your industry! WOLVERINE TUBE, 1413 Central Avenue, Detroit 9, Michigan.

*REGISTERED U.S. PATENT OFFICE.

GROWING UP WITH
THE REFRIGERATION
INDUSTRY!



WOLVERINE TUBE

DIVISION OF CALUMET & HECLA, INC.

Manufacturers of Quality Controlled Tubing
and Extruded Aluminum Shapes

Wolverine Trufin is available in Canada through the Unifin Tube Company, London, Ontario.

PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES
IN PRINCIPAL CITIES.

EXPORT DEPARTMENT, 12 EAST 46TH STREET, NEW YORK 16, N. Y.

SPOTLIGHTING These Wolverine Products

Real proof of Wolverine's creative services to the air conditioning and refrigeration industry lies in these four unusual products:

WOLVERINE CAPILATOR*

—the capillary tube for restriction purposes. Used for metering liquids, gases, and air. Capilator's plug drawn bore is smooth, mirror-bright and held to tight tolerances. Before shipment, Capilator is washed, deburred, chamfered, flow tested and its ends are paper wrapped. Available in copper and aluminum.

*REGISTERED U.S. PATENT OFFICE.



WOLVERINE TRUFIN

—The integral finned tube

Trufin permits the design of smaller, more efficient condensers, and evaporators. Integral fins pack more BTU's into every foot of tube—stand up under the stress of temperature changes, pressures and vibration. Available in copper, copper-base alloys, aluminum, electric-welded steel and bi-metal.

*REGISTERED U.S. PATENT OFFICE.

WOLVERINE SPUN END PROCESS

—for one-piece, leak-proof parts. Accumulators, driers, accumulator-driers, receivers and other tubular-shaped parts are quickly and economically produced via Wolverine's unusual Spun End Process. Stamping, deep drawing, other fabrication methods and assembly work is eliminated.

*PATENTED PROCESS RE 22465



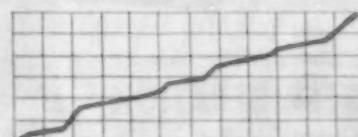
REFRIGERATION TUBE

—in straight lengths and coils

Wolverine copper and aluminum refrigeration tube is used extensively for liquid lines running between the condenser and evaporator and suction lines running from the evaporator to the compressor. It is used, too, in evaporator and condenser coils.

Write for a copy of the Wolverine General Product Catalog. And insist upon a Wolverine quote. WOLVERINE TUBE, 1413 Central Avenue, Detroit 9, Michigan

LEADING THE WAY
WITH RESEARCH!



WOLVERINE TUBE

DIVISION OF CALUMET & HECLA, INC.

Manufacturers of Quality Controlled Tubing
and Extruded Aluminum Shapes

PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES
IN PRINCIPAL CITIES.

EXPORT DEPARTMENT, 12 EAST 46TH STREET, NEW YORK 16, N. Y.

Worth your reading.

How Utilities Are Approaching Problem of Inadequate Wiring

Companies Pool Ideas for Promotion, Financing Plans, Wiring Programs at Discussion-Conference

CHICAGO — How efforts being made to lick the inadequate wiring problem are taking effect was described at the 11th annual national adequate wiring discussion-conference held recently at the LaSalle hotel here.

In the keynote address, John W. Evers, president of Commonwealth Edison Co., Chicago, outlined the new home wiring modernization program being conducted by that utility.

"Under it," he explained, "615,000 homes in Chicago and northern Illinois with outmoded two-wire 120-volt service are being offered special inducements to install 3-wire, 240-volt service.

"Commonwealth and its Public Service Co. Div. are dedicated to encouraging those living in one, two, or three-family dwellings to install the modern wiring necessary for good lighting and to handle today's growing list of appliances as well as to use more conveniently those they already have.

'Bargain Priced' Wiring

"The company has arranged for 'bargain priced' wiring by assuming the cost of the service entrance. This, heretofore, has been paid by the customer.

"Under the new plan, the company thus bears the cost of all the outside equipment. I should add, parenthetically, that we have placed a maximum of \$35 on the amount the company will pay for service entrance equipment.

"Any customer with a 240-volt appliance who agrees to install a 100-ampere main switch and the circuit required for the appliance will qualify for the service entrance concession.

"Commonwealth has arranged for local electrical contractors in each community to make wiring installations at fixed prices. All appliance dealers have been furnished schedules of these installation costs so they have them instantly available for customers' information.

Room Units Had To Be Returned

"Our chairman, Willis Gale, in announcing the program, stated it was adopted so that residential customers can get the full benefit of today's electric service. He pointed out that last summer many customers bought room coolers but had to return them because their homes did not have sufficient wiring capacity to handle the appliance."

Evers also quoted this remark of Gale: "A healthy growth in residential use of electricity is necessary to insure the well-

balanced growth of our entire load. A well-balanced load is necessary to permit us to utilize our expanding generating and distributing facilities most economically and, in the long run, to the financial benefit of all our customers."

Evers said the 240-volt electrical appliance required under the program may be a range, a clothes dryer, an air conditioner, a built-in auxiliary heater, or a water heater.

Provides Ten 120-V Circuits

"The wiring installation provided for in the program," he stated, "will permit the ultimate installation of up to 10 120-volt circuits, as well as the 240-volt service. This contrasts with the typical two-wire service with only two to four circuits now found in hundreds of thousands of homes in our area."

Charles A. Byron, residential sales manager of Connecticut Light & Power Co., gave conference details of his company's time-payment wiring plan inaugurated last summer. This plan, he indicated, is patterned after the "Cincinnati Plan." The latter was described in the March 21 issue of the NEWS.

Byron said his firm's program was launched "as a means of a more forceful approach to a solution" to inadequate wiring. However, he added, the plan, "is not yet spinning on as many cylinders as it should be."

After giving operational details of the plan and outlining problems involved, Byron concluded: "Certain suggestions come to mind about the application of a special financing plan and about creating additional consumer and trade interest in modernizing home wiring. . . .

Financing Plan

1. Simplify all forms signed by customer and contractor.

2. Maintain a low finance rate.

3. Acquaint all local appliance dealers with the importance of the program to their future sales. Make certain all distributors in the area are entirely familiar with the problem and the action program of the utility.

4. Bring a story of need for improved wiring to more customers by encouraging home service personnel to stress wiring in all home calls and at each group demonstration. The film, "The Magic Link," available from Consolidated Edison Co. of New York, is ideal for use at employee, dealer, and other group meetings.

5. Special demonstration aids

are effective in presenting the need for improved wiring." As an example of this, Byron mentioned a "Wiring Board" devised by employees of Florida Power & Light Co.

He also noted that a new "Weak Wire Meter" is now under development by the National Electrical Contractors Association. He said this device "will aid contractors in making the adequacy of home wiring crystal clear to the home owner." He continued:

6. Furnish a series of direct mail folders to contractors. . . .

7. Use the most effective advertising media for your area.

8. Arrange attractive displays in each utility office and schedule special windows at frequent intervals.

9. Consider the formation of an Adequate Wiring Bureau in each operating area of a utility. . . .

10. Arrange for wide distribution of "Residential Wiring Handbook" prepared by the Industry Committee on Interior Wiring Design. Cost in quantity is only 6 cents per copy.

11. . . . Appliance manufacturers can subtly treat the subject of adequate wiring in certain types of magazine and newspaper advertisements.

12. Appeal for further support

from the manufacturers of wiring material for they have a vital interest in this business.

13. Encourage the personal loan departments of local banks to run advertising copy stressing the importance of improved wiring for the home. . . .

14. When it is practical to do so, investigate the use of the "open end mortgage" plan of payment.

15. Mail commercial publications . . . to groups interested in new home construction.

16. Interest local trade schools in the problem."

Electrical modernization of multi-family dwellings was discussed by T. L. Hankins, president of Condo Electric Co., Chicago. He is co-chairman of the Apartment House Wiring Modernization Committee, a subcommittee of the Chicago Electric Association's Commercial-Industrial Modernization Committee.

Standards for Apartment Buildings

In reporting on activities of his committee, Hankins listed model standards for electrical modernization of multi-apartment buildings. Among other things, the standards require that "capacity shall be provided in the service feeders and tenant distribution cabinet for an electric range.

"In addition, service, feeders, and circuit capacity is also to be provided in the tenant distribution cabinet for air conditioners or room coolers based on 1 1/4 watts per square foot for the entire area of the building. This capacity to be apportioned between the tenants of the building and public areas which may be considered for air conditioning."

Modernization of Multi-Family Dwellings Analyzed

J. O. Covington, manager, Adequate Wiring Bureau, Consolidated Edison Co. of New York, Inc., told the conference about electrical modernization of multi-family dwellings in New York City.

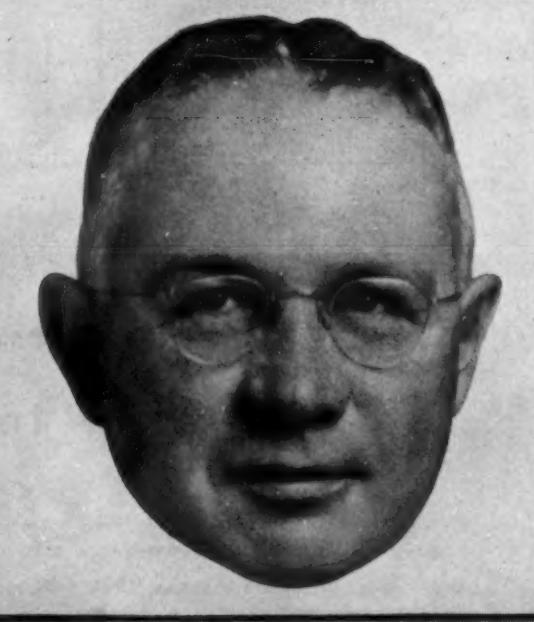
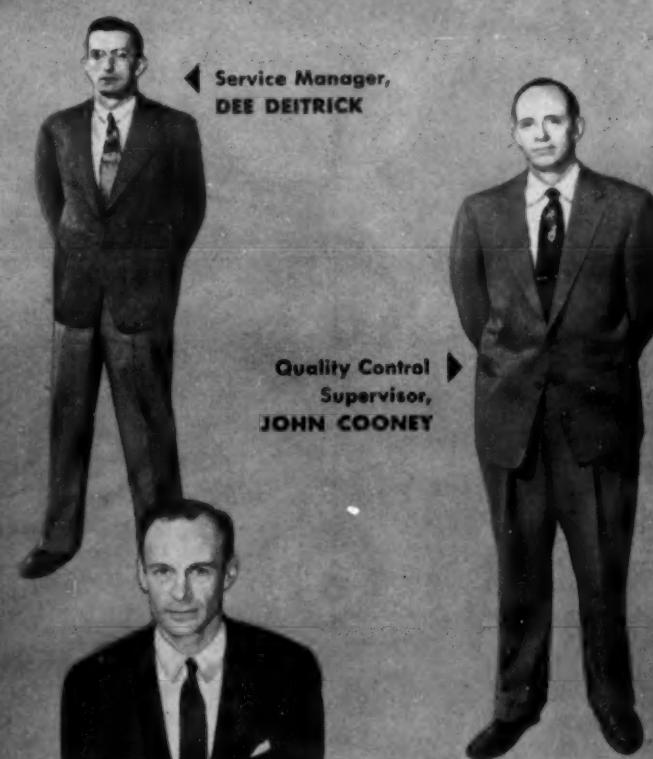
"Several years ago," he said, "it became evident to the management of my company that our customers were curtailing their use of electrical energy because of inadequate wiring and in 1953 it was patent that corrective action was needed."

He said several facts pointed up the urgent situation, such as the following:

"Many letters and telephone calls from customers in which they stated such things as . . . I recently bought an air conditioner and a television set which cost

(Concluded on next page)

Your Westinghouse Distributor



HENRY KLEINKAUF, president of Natkin & Company, with offices in Arkansas, Colorado, Missouri, Nebraska and Texas, says: "Westinghouse Factory Sales Training—by top company executives—provides the kind of help our dealers need to profitably sell, install, and service air conditioning."



Harry Alter's New DEPENDABOOK

GET IT AND SAVE!

No. 162
1955

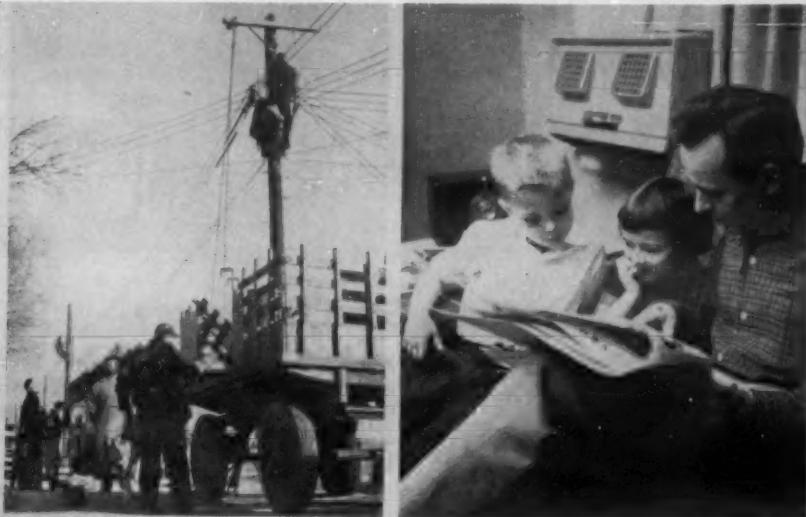
OVER 10,000 ITEMS
ILLUSTRATED, DESCRIBED, AND PRICED

Save Money On
REFRIGERATION
PARTS and Supplies
... Also Electric Motors
& Parts, Air Conditioning
PRICED RIGHT!

"Harry Alter gives you snappy service"

The HARRY ALTER CO. Inc.

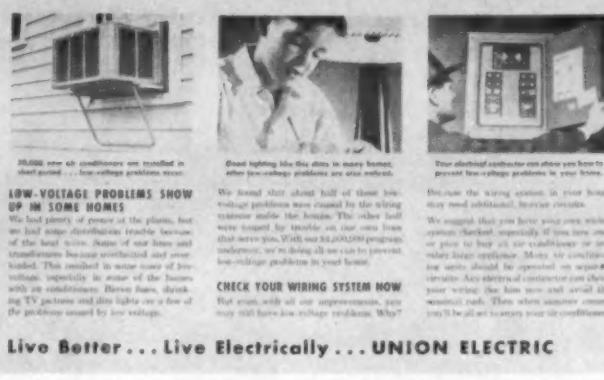
1728 S. Michigan Ave., Chicago 16, Illinois
134 Lafayette Street, New York 13, N. Y.
122 Parkhouse Street, Dallas 7, Texas



On the job now... for your cool comfort this summer

Union Electric spending \$4,500,000.00 to get ready for Air Conditioning

USE OF AIR CONDITIONERS DOUBLES
Early last summer, there were only 30,000 air conditioners being used in the St. Louis area. Then came the heat wave... and, during the summer, the number of air conditioners, making a total of 60,000 on our lines. Because many of these new units were in during a period of extreme heat, there was a sudden demand for more and more electricity.



Live Better... Live Electrically... UNION ELECTRIC

(Concluded from preceding page)
several hundred dollars and now find that I can't use them simultaneously. I have the unhappy alternative of being cool but bored, or hot and entertained.'

Some Landlords Prohibit Heavy Wattage Equipment

"Known instances of landlords prohibiting tenants from installing heavy wattage appliances, such as air conditioners and broilers and even washing machines. . . ."

Covington pointed out that although Consolidated Edison has about 850,000 customers in one and two-family houses, 74% of its residential customers live in apartment buildings. The variations of interior wiring design in these buildings exceeds the number of different types of buildings, he noted.

In addition to the physical conditions, he said, "life is complicated somewhat more by the fact that we have controlled rents of most residential premises and the maximum permitted rent established by the State Rent Commission cannot be increased without

its approval. Rarely will a landlord undertake the expense of rewiring unless the cost can be returned rather quickly from higher rents."

78% of Apartments Need More Wiring

Covington said his company made a survey involving 541 apartment buildings and found 78½% were inadequately wired to supply the equipment owned by the tenants; 57% of the tenants expected to buy additional appliances but only 7% of the apartments had wiring suitable for supplying the new appliances in question.

"The dollar sign is omnipresent in all building wiring, but it is a veritable giant in apartment buildings and so often it is necessary to tailor the suit to the cloth. The wiring capacity you can get seldom is what you would like."

Covington also said: "Electric range and water heater saturation in our territory is low and both are lower in multi-tenanted buildings than in private houses. Therefore, provision for their use is not a part of our apartment wiring picture."

"Washing machines and dryers are usually coin-operated and installed in the basement, although our previously-mentioned survey . . . developed that 18½% of the tenants owned washing machines located in their apartments."

"The same survey developed a broiler saturation of 50.2% and an air conditioning saturation of 17.8%, with another 33.8% of tenants stating that air conditioning was their most wanted appliance. Indeed, in the \$90 or more per month rental range, those who 'have' or 'want' air conditioning amounted to 76.2% of the total surveyed customers in this rental range."

"Thirty-two per cent of the customers had not bought additional appliances because they knew their wiring was inadequate. Only 1.9% gave appliance operating cost as the reason why the most wanted appliance had not been bought."

"We strongly urge the extension of adequate wiring promotions to the apartment building because those landlords and customers need your help," Covington stated.

"In New York we are doing spade work and will be doing so for some time more. Yet, in the little more than a year that we have had our program under way we have been involved in the rewiring of 86 apartment buildings containing 3,887 dwelling units to which the average capacity increase was 3.13 KVA. In addition, 30 new buildings with 2,006 dwelling units made capacity increases of 2.46 KVA per dwelling unit over the amount originally planned. . . ."

"It is our opinion that adequate wiring will be installed in apartments as a general practice only if the public demands it. There is not sufficient incentive for builders to provide it, otherwise."

"Before it will be demanded by the public, we will have to convince them that it is a genuine benefit and worth its added cost, that is, rental. Unfortunately, this is not as easy to sell to the apartment renter as to the private house owner."

American Kitchens Names Pender

CONNERSVILLE, Ind. — Marc W. Pender, former vice president in charge of sales of Magic Chef, Inc., has been appointed assistant general manager of American Kitchens Div., Avco Mfg. Corp.

The announcement was made by Curry W. Stoup, Avco vice president and general manager of American Kitchens. Pender, who was a director and member of the executive committee at Magic Chef, spent 27 years with that organization and its predecessor, American Stove Co.

Union Electric of Missouri Uses Middle-of-Road Approach

ADVERTISEMENT at the left is a sample of the way Union Electric is steering a course between sales deterrent type of rewiring copy and the promotion of good wiring as an air conditioning necessity. The objective, according to the utility, is to inform the customers, rather than promote directly the sale of air conditioners or revamped house wiring. The utility is also using television commercials and circulars to tell the story of what it is doing in the public interest.

Bendix Joins Unarco Div. As Contract Sales Chief

CHICAGO — Charles B. Bendix has joined Union Asbestos & Rubber Co.'s Heating & Cooling Div.

as manager of contract sales, it was announced recently by Chester S. Stackpole, general sales manager.

Prior to joining Unarco, Bendix was associated with the Automatic Burner Corp.

Bendix, a pioneer in the heating and air conditioning industry in the United States, was born in Stockholm, Sweden.

In 1922 he emigrated to the United States and has spent the past 32 years in the refrigeration and automatic heating business.

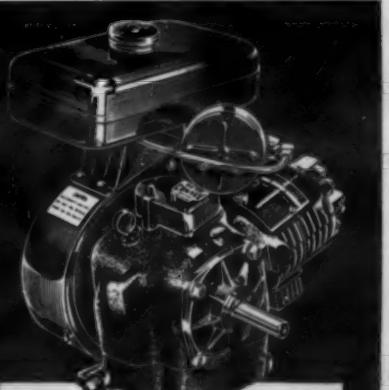
One of five charter members of the "Old Timers Club," he is a member of the American Society of Heating & Ventilating Engineers and an associate member of the American Society of Refrigerating Engineers.

Extra-Tough JOBS Call for EXTRA-DEPENDABLE POWER

The more you have to gain through uninterrupted performance, the more you need the extra dependability of Red Seal® heavy-duty air-cooled power. Carter center-bowl type carburetor, improved manifolding, valving and cooling, join with greater displacement to give you more "lug" at low speeds—more usable power at high—greater dependability and economy throughout the entire range.

SERVICE FACILITIES AND RED SEAL PARTS

*TM REG. AVAILABLE EVERYWHERE



MODEL AUBS
NOTE COMPACTNESS—This 3-h.p.
engine is 13½" high.

OPTIONAL RED SEAL FEATURES
Patented, exclusive Contex® external ignition system, instantly accessible for adjustment or repair... Automatic ignition cut-off stops engine if oil level falls dangerously low... New, sure-grip recoil starter assures instant starting every time... 6:1 reduction gear may be mounted in any of four positions... Engines may be had for operation on kerosene.



Continental Motors Corporation

AIR-COOLED INDUSTRIAL ENGINE DIVISION
12800 KERCHEVAL AVENUE • DETROIT 15, MICHIGAN

Increases Your Profit with...



A Complete Factory Sales Training Program

To make your selling job more profitable... ease your installation problems... and reduce your service calls... Westinghouse has started a new kind of factory training program.

Your men who take this program get intensive instruction directly from top management people—the men you see here backing up Westinghouse Distributor Henry Kleinkauf.

Here is aggregate experience in air conditioning that totals more than 157 years—planning, designing, producing, marketing, advertising and selling air conditioning. These men know manufacturing, know dealers, know customers. They know how to turn problems into orders. They will pin-point the methods for your men to take back home and use every day.

Get in touch with your Westinghouse Distributor today, and arrange to send your men to Staunton.

In addition to Sales Training, Westinghouse backs you with one of the most COMPLETE LINES in the industry... to give you an "edge" over competition: packaged residential and commercial air conditioners, combination year-round heating and cooling units, plus all-electric Heat Pump and the exclusive Precipitron®—an electronic air cleaner that removes over 90% of all airborne dust, dirt, pollen and mold.

COMPLETE SALES PROMOTION PACKAGE... to locate prospects, close sales, and build profits through newspaper ads and direct mail. You also get radio and TV scripts, window and store displays, identification signs, banners... everything you need.

See your Westinghouse Distributor for the most COMPLETE PROFIT-BUILDING PLAN ever offered!

YOU CAN BE SURE... IF IT'S

Westinghouse

MAIL THIS COUPON TODAY

Westinghouse Air Conditioning, Dept. R-4
Box 510, Staunton, Va.

I want the complete story on the 1955 Westinghouse Air Conditioning line... and Sales Promotion Package—Invitation to Leadership.

- I am not yet in the air conditioning business
- I am now an air conditioning dealer
- I now handle the following lines...

NAME..... (please print)

ADDRESS.....

CITY..... ZONE..... STATE.....

Reward! Have You Seen These Men?

Ad Tells How They Can Change Your Way Of Life with Center's Freezer-Food Plan

KINGSTON, Pa. — Susquehanna Frozen Food Centers, Inc. effectively promoted its freezer-food program by featuring photos of its seven salesmen in a large newspaper advertisement which carried the dramatic headline: "Reward! Have You Seen These Men?"

Said ad copy: "They are carrying a valuable set of plans which can change your whole way of life. These men and their plan are wanted—in every home when modern families want the highest quality food and economical modern way of food planning.

"They are experienced food counselors for the Susquehanna Food Centers.

"The plans they are carrying are part of Susquehanna's popular freezer-food program, a modern food-buying program which gives you:

"1. Your choice of high quality frozen foods, packaged by leading food packers; U.S.D.A. choice beef; U.S.D.A. Grade A fancy fruits and vegetables, and the finest of seafoods.

"2. Low bulk prices which cut your food budget up to 20% on every meal you prepare.

"3. The quality foods and a beautiful freezer are yours for the same

amount you are now spending on food alone.

"4. The complete facilities of the Susquehanna Frozen Food Centers, including locker facilities, home service counseling, food insurance, refrigerated delivery trucks, and many other service extras."

The ad carried a mail coupon which the reader could send in for additional details on the frozen food program.

Or the prospect could phone the company and have one of the representatives pay a personal visit to the home.

O'Day Named To Distribute For Amana In Fargo, N. D.

AMANA, Iowa — O'Day Equipment, Inc., Fargo, N. D., has been named distributor for Amana freezers and room air conditioners, it was announced here by E. L. Hinchliff, sales manager for Amana Refrigeration, Inc.

The company, headed by Leo O'Day, will represent Amana in the firm's north central territory, including 14 counties in northwest Minnesota and all of the state of North Dakota with the exception of two counties.

Colorado Bill Would License Meat Retailers

DENVER — Home freezer distributors and retailers are putting up a strenuous fight against passage of House Bill 118 in the current session of the legislature.

The bill proposes a new control board and licensing fee for meat retailers who sell sides of beef cut and packaged to the customer's order for home freezer storage.

Under terms of the proposed law, the retailer, including the grocery store, meat market, locker plant, and specialty store, would pay a license fee of \$25 per year for the privilege of supplying the "quantity buyer."

In addition, Gov. Edwin C. Johnson would appoint two paid members to a four-man control board committee. Two would be furnished by the frozen foods industry.

During the past seven years, "custom service" for the home freezer owner has grown to major proportions, it was pointed out by M. N. Otto, secretary of the Colorado Retail Grocers & Meat Dealers Association.

The immediate effect of passing the new license fee regulation and the continuing cost of supporting a control board will rule out the economy factor in meats sold this way, Otto believes. He said that if added costs made the service unattractive to the customer, "the result, of course, would be simply elimination of this department."



HOME & FARM FREEZERS

Freezer Sales Show Strong Gains In February --

(Concluded from Page 1) tries than in the United States, the statistics indicated. While U. S. sales for February were 18% higher than last year, sales to Canada jumped 82% and to other foreign countries 68%.

As compared with January, U. S. sales gained 6%, while sales to

Canada rose 45% and to other countries 55%. For the first two months of the year, domestic sales gained 17%, sales to Canada 63%, and sales to other foreign countries 44%.

However, export sales are only a small fraction of domestic sales, amounting to 4% of total sales.

NEMA Freezer Sales Up 7% over January; 117,672 Units Sold In First Two Months

ELECTRIC FARM AND HOME FREEZERS

Summary for February, 1955

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. 6 cu. ft. and under				*
Chest Models	*	*	*	*
Upright Models	*	*	*	*
2. 7 and 8 cu. ft.				
Chest Models	*4,287	*138	*306	*4,731
Upright Models	*96	*18	*31	*145
3. 9 and 10 cu. ft.				
Chest Models	2,289	51	59	2,399
Upright Models	†	†	†	†
4. 11.0 and 12.4 cu. ft.				
Chest Models	4,964	—	176	5,140
Upright Models	*5,911	1237	*139	*6,287
5. 12.5 to 14.4 cu. ft.				
Chest Models	2,772	160	64	2,996
Upright Models	4,972	103	335	5,410
6. 14.5 to 15.4 cu. ft.				
Chest Models	8,459	107	57	8,623
Upright Models	†	†	†	†
7. 15.5 to 17.4 cu. ft.				
Chest Models	4,554	1	5	4,560
Upright Models	*9,663	*174	*69	*19,906
8. 17.5 to 19.4 cu. ft.				
Chest Models	1,877	106	12	1,995
Upright Models	4,255	29	65	4,349
9. 19.5 to 21.4 cu. ft.				
Chest Models	2,435	104	4	2,543
Upright Models	†	†	†	†
10. 21.5 cu. ft. and over				
Chest Models	671	13	8	692
Upright Models	*1,224	—	—	*1,224
Total Chest Models ..	32,306	680	691	33,679
Total Upright Models ..	26,121	561	639	27,321
Total All Models ..	58,429	1,241	1,330	61,000

*Models for items 1 & 2 combined because of possible disclosure of individual company data.

†Upright models for items 3 & 4 combined because of possible disclosure of individual company data.

‡Upright models for items 6 & 7 combined because of possible disclosure of individual company data.

§Upright models for items 9 & 10 combined because of possible disclosure of individual company data.

Note: Freezers of exactly the 5.5, 7.5, 8.5 etc. cubic feet sizes are included in the next higher category.

Summary for First Two Months, 1955

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. 6 cu. ft. and under				*
Chest Models	*	*	*	*
Upright Models	†	†	†	†
2. 7 and 8 cu. ft.				
Chest Models	*7,505	*276	*428	*8,209
Upright Models	*302	*18	*31	*351
3. 9 and 10 cu. ft.				
Chest Models	4,382	86	201	4,669
Upright Models	†	†	†	†
4. 11.0 and 12.4 cu. ft.				
Chest Models	10,913	137	250	11,300
Upright Models	*11,788	1420	*230	*12,438
5. 12.5 to 14.4 cu. ft.				
Chest Models	11,739	208	204	12,151
Upright Models	10,226	160	390	10,776
6. 14.5 to 15.4 cu. ft.				
Chest Models	9,780	107	85	9,972
Upright Models	†	†	†	†
7. 15.5 to 17.4 cu. ft.				
Chest Models	7,941	1	14	7,956
Upright Models	*17,469	1287	*136	*17,892
8. 17.5 to 19.4 cu. ft.				
Chest Models	3,959	179	88	4,226
Upright Models	7,451	62	106	7,619
9. 19.5 to 21.4 cu. ft.				
Chest Models	6,382	135	14	6,531
Upright Models	†	†	†	†
10. 21.5 cu. ft. and over				
Chest Models	1,024	21	8	1,053
Upright Models	*2,526	53	—	*2,529
Total Chest Models ..	63,625	1,150	1,292	66,067
Total Upright Models ..	49,762	950	893	51,605
Total All Models ..	113,387	2,100	2,185	117,672

Participating companies: Admiral Corp.; Ben-Hur Mfg. Co.; Carrier Corp.; Crosley & Bendix Divs.; Avco Mfg. Corp.; Deepfreeze Appliance Div.; Motor Products Corp.; Frigidaire Div.; General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co.; Div. of General Electric Co.; International Harvester Co.; Kelvinator Div.; American Motors Corp.; Maytag Co.; Norge Div.; Borg-Warner Corp.; Philco Corp.; Appliance Div.; Quicfrez, Inc. (formerly Sanitary Refrigerator Co.); Revere, Inc.; Seeger Refrigerator Co.; Servel, Inc.; Sub-Zero Freezer Co., Inc.; Victor Products Corp.; Westinghouse Electric Corp.; Wilson Refrigeration, Inc.

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Hotpoint's \$5,000,000 Golden Anniversary Contest Designed To Build Dealer Store Traffic

CHICAGO—A nationwide home building and merchandising program, claimed to be the largest of its kind ever undertaken by an appliance manufacturer to stimulate dealer store traffic, has been announced by Hotpoint Co.

The program embraces a comprehensive activity in which Hotpoint dealers and distributors as well as home builders, electric utilities, and department and furniture stores will participate, John F. McDaniel, vice president, marketing, said.

The vehicle for dramatizing the activity is a \$5,000,000 consumer contest in which more than \$2,000,000 in prizes will be awarded, highlighted by four completely furnished and decorated Hotpoint "Living-Conditioned" homes on landscaped lots.

During the May 1-June 25 contest period, all Hotpoint advertising and promotion will be directed at consumers to encourage them to come into Hotpoint dealer stores for entry blanks.

Essay Contest

The contest is of a simple essay type, with prizes including some 5,000 appliances, 50 all-electric combination kitchens and laundries, and four houses, McDaniel said.

More than 150 builders across the country have been erecting their own models of Hotpoint "Living-Conditioned" houses, and planned to have them open for public display at the time the contest begins.

Department stores in each of these cities are cooperating in furnishing and decorating the houses. Local electric utilities will promote the electrical living aspects of the homes.

It is estimated that a total of approximately \$20,000,000 will be put behind this nationwide effort to dramatize Hotpoint's 50th anniversary, taking into consideration advertising and promotional expenditures by builders, department stores, and utilities.

In each major city in the country, consumers entering the contest will have a chance to see a prototype of one of the prize houses. *Living For Young Homemakers* magazine is co-sponsoring the activity with Hotpoint through the selection of the four prize home architects, and supervision of construction, decorating, and furnishing of the prize houses.

Home Builders and Department Stores Cooperating

The magazine is also going all out to promote the activity through department stores and builders. Its own "Living-Conditioned" program, developed in cooperation with the National Association of Home Builders, emphasizes advanced concepts of lighting, heating, and other factors which have been incorporated into the over-all activity.

The Hotpoint Golden Anniversary program has been under preparation for more than a year. Presentations of the program to Hotpoint distributors and dealers, as well as builders, department stores, and utilities, began in 1954.

McDaniel pointed out the program goes far beyond a basic consumer contest, since it has a strong and lasting appeal for the building, home furnishing, and utility industries.

A secondary promotion push will

take place during National Home Week, Sept. 19-26, which is dramatized in most metropolitan centers throughout the country. This will coincide with the announcements of the contest winners.

Each Hotpoint Dealer Will Have Winner

The contest has unusual local appeal, because each Hotpoint dealer participating will have an appliance winner, McDaniel said. The company's 50 main distributors' houses each will award one of the kitchens, and the four prize houses will be built on lots of the winner's choice.

McDaniel believes that several hundred prototype homes, and possibly as many as a thousand, can be completed by the end of 1955. The prize houses will be completed in the spring of 1956, so that the program extends well beyond a 12-month period.

Hotpoint will take space in national publications, such as *Life*, *Saturday Evening Post*, *Reader's Digest*, *Living*, and *Sunset*, to announce the contest in May and June.

Strong local advertising in each of the cities where houses are being built will supplement the national advertising. The company's nationwide television show, "Ozzie and Harriet," will also feature the contest in May and June with cut-ins for local markets.

Hotpoint dealers who participate in the Golden Anniversary homes program will purchase a special package, including a prize appliance, a kit containing banners, decorations for windows and store, three dimensional give-away punch-outs of the prize houses, color renderings of the prize houses, salesmen lapel buttons, and Golden Anniversary coins.

A special promotion kit for participating builders, department stores, and utilities also has been prepared. It gives a step-by-step procedure for dramatizing the activity in local markets.

5,000 Dealers Signed Up

At the present time, more than 5,000 Hotpoint dealers have agreed to take part in the program, and McDaniel believes the number finally participating will go to more than 6,500.

The Hotpoint "Living-Conditioned" homes are four model houses, each designed for its own geographical region: east, midwest, south, and west. A leading architect from each region created the plans for the home in his region.

Pilot model homes are located in Clifton, N. J.; Mt. Prospect, Ill.; Knoxville, Tenn.; and San Francisco. Plans for the four regional homes were dictated by 40,000 young homemakers who took part in a nationwide survey conducted by *Living For Young Homemakers* in conjunction with the National Association of Home Builders.

Guiding the Hotpoint homes' engineering and design, building materials, and construction technique is the philosophy that new inventions and new materials can provide a high degree of comfort and liveability without a high price," the company pointed out.

As part of this thinking, specifics were established regarding light conditioning, climate conditioning, sound conditioning, and safety conditioning. With respect to climate conditioning, Hotpoint said:

"All four homes are designed to

exploit the seasonal change in the sun's ascent and descent, using the direct solar heat in winter and excluding it in summer.

"Insulating window glass, properly shaded, cuts solar heat gains in summer about 40%. As a result, a smaller air conditioning unit than would normally be required does an efficient job of summer cooling.

"In winter, warmed air is supplied at points of greatest heat loss. Return air grille positions prevent air stratification, and it is possible to sit in comfort beside a large glass area in very cold weather. Side walls and ceilings are insulated.

"Heating and ventilating plans were developed by engineers working with the National Heating and Ventilating Association."

Hotpoint and *Living* executives cooperated in the tasks of persuading local builders across the nation to build exhibition homes based on one of the four regional Living-Conditioned homes. A dozen teams consisting of a Hotpoint official and a *Living* representative sponsored luncheons at which they talked with home builders.

When a builder agreed to parti-

SPECIALTY SELLING METHODS



L. J. DIANGELO, merchandising manager, refrigeration section, Hotpoint Co., explains dealer promotional package for \$5,000,000 Hotpoint Living-Conditioned Golden Anniversary Homes contest.

cipate in the project, he signed a contract. Building details were worked out by him, Hotpoint's field representative in the area, and a representative of *Living*.

Living's decorators selected the furnishings for the homes and

many of the building materials. Manufacturers of items chosen for the homes were urged to tie-in promotion-wise with the project. Altogether, 221 manufacturers are taking part in the promotion, it was reported.

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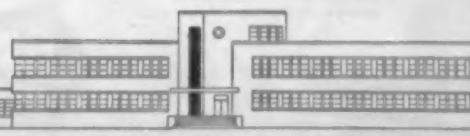


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450 W. Fort St., Detroit 26, Mich.
Telephone Woodward 2-0924.
New York Office: 521 Fifth Ave.,
Telephone Murray Hill 7-7158.
Chicago Office: 134 S. LaSalle St.,
Telephone Franklin 2-8093.
Cleveland Office: 1551A Detroit Ave.,
Telephone Lakewood 1-7125.

Subscription Rates: U. S. and Possessions
and Canada: \$6.00 per year; 2 years, \$9.00;
3 years, \$12.00. All other countries: \$10 per
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VOL. 75, NO. 1, SERIAL NO. 1,363
MAY 2, 1955

Psychological Revelations About The Art of Selling

The Attitude a Salesman naturally takes toward PEOPLE predisposes his ability as a closer. And, what his mother did (when, as a child, he pulled sister Suzy's pigtails) helps form that all-important attitude.

So believes Dr. James S. Nirenberg. As this business psychologist sees it, making a sale is the act of influencing a person to do what the salesman wants him to do—sign on the dotted line.

His effectiveness as a salesman depends entirely on how he has influenced PEOPLE in the past—starting from the time he first captured the attention of someone other than his mother.

As the incipient salesman develops and grows into manhood, he rapidly learns that he cannot satisfy all of his desires by walling. And many of his desires were not satisfied at all.

If, when Sam pulled Suzy's pigtails, Mother whipped the living tar out of him, Sam quickly learned that aggressiveness toward other people was painfully punished. So he found it much better either to avoid people or to do what they wanted him to do.

On the other hand, if Mother did nothing and Suzy cried and ran away, Sam discovered that other people might be afraid of him; so he could get his own way by force or threats of aggressiveness.

Or, if Mother severely reprimanded Sam, he may feel frustrated. Out of such frustration grows hostility or aggression, according to Dr. Nirenberg. The more frustration a child suffers the more hostile he becomes. What Sam then will do in a given situation will depend on the strength of his free impulses as compared with his fears of punishment.

If he is not too fearful of expressing his hostility, Sam may take the attitude that, as other people are equally hostile toward

They'll Do It Every Time . . . Jimmy Hatlo



him, he should attack them first before they attack him.

However, if fear is stronger, he may believe his salvation lies in manipulating other people to do what he wants without actually showing hostility toward them. If kindness and patience have gone into Sam's upbringing, he might even grow up to like people, enjoy their companionship, and do things for them rather than to them.

Any one of these attitudes then may be in the back of Sam Salesman's subconscious mind as he approaches his prospect. How is he going to influence the prospect to buy?

If he should be the type who finds he gets his way by not antagonizing people, he may put his faith in the obvious strength of his product to overcome all competition, and the wisdom of the prospect to see for himself the apparent advantages of using it.

The openly hostile or aggressive Sam of the "never give a sucker an even break" school is the high-pressure man. He goes after his prospect and never gives the poor fellow a chance to say "No." Instead, the prospect will either end up buying the product (if he happens to be the timid type) or throwing Sam out of his office.

The manipulative Sammy will have a well-laid out plan of attack, and will enjoy watching his prospect respond as he builds up his "pitch." If the prospect balks, Sammy either will resign himself to a lost sale, or try too hard to close, and thus lose his sale anyway.

But the fourth Sammy, the one with the good feeling for his prospect and a desire to do what is best for him, will keep the interview on the prospect's own terms. He will consider the long-run business to be gained, rather than the need to close an immediate sale.

If the prospect resists, this Sam learns the basis for his resistance and then works to counter the prospect's objections. And when the appropriate moment comes for closing—and not before—he will be ready with his fountain pen.

Moral: Pause before applying the hairbrush to your Sammy. He may have to support you on his earnings as a salesman some day.



OFF THE CHEST

Frigidaire, Div. of GM Corp.
Dayton 1, Ohio

Editor:

I want to compliment you on the editorial, "We Can't Build a Good Business on Dishonesty."

Individually, we all agree with you; collectively, it seems difficult for everyone to maintain honest standards.

For added emphasis, why not send a reprint of the editorial to each and every nameplate in the business?

HERMAN WORSHAM

Shook & Fletcher Supply Co.
Birmingham 2, Ala.

Editor:

I heartily applaud your editorial in the March 21 issue of AIR CONDITIONING & REFRIGERATION NEWS "We Can't Build a Good Business on Dishonesty."

As a Carrier distributor, we would like to arm each of our wholesale men at least with a copy of this article. Can you tell us how we can obtain reprints? Would it be possible to obtain a quantity of reprints that could be distributed to our dealers?

W. S. RAMSEUR,
Mgr., Dealer Sales

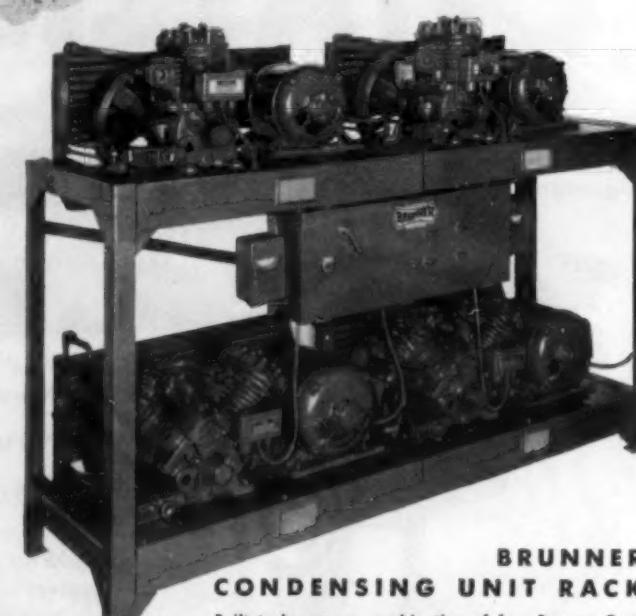
Stahl-Rider Distributing Co.
1010 S. Saunders St.
Raleigh, N. C.

Editor:

We read with much interest your article pertaining to dishonesty of ratings in your March 21 issue.

We concur with you very much in your disfavor of this practice. We are wondering if any reprints of the article will be available and, if so, what will be the cost.

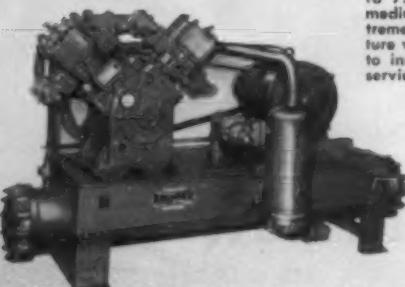
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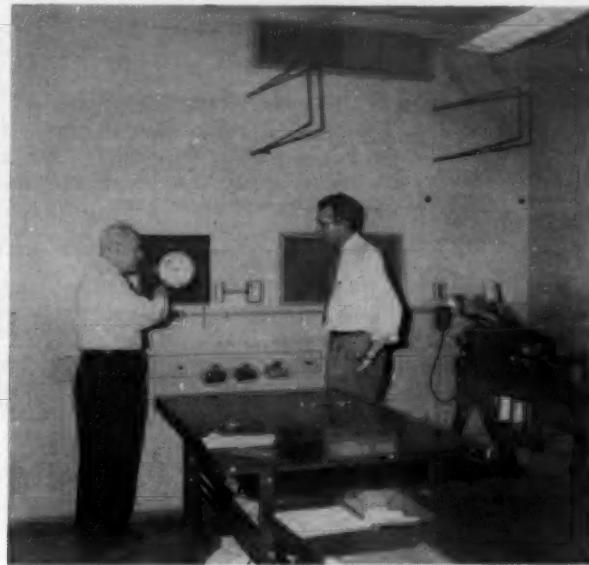
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CHECKING THE TEMPERATURE and humidity recorder in the test laboratory at Landers Corp. are Charles Chaban, research director (l.), and William Corry, laboratory manager. Note steam from loop jets being propelled into the cold air stream ahead of the outlet grille above.



SPECIAL STEAM GENERATOR for the air conditioning unit is installed in a hallway outside the laboratory. A separate source of steam was deemed advisable to assure a continuous supply when the plant system was turned off.



ROBERT GREENWALD, air conditioning division manager for the Lumm Corp., which installed the job, points out features of the built-up air conditioning unit outside the laboratory to Kathleen Merritt, test room supervisor.

3-Ton Air Conditioner Helps Fabric Maker Meet Rigid Temperature, Humidity Requirements

By George M. Hanning

TOLEDO—To assure the Landers Corp. here, one of the largest manufacturers of leatherette fabrics for the furniture and automotive industries, that its materials are meeting rigid government standards, strict temperature and humidity conditions are maintained in its test laboratory by a special built-up 3-ton air conditioner.

The unit was designed and installed by Robert Greenwald, manager of the air conditioning division of the Lumm Corp.

The required conditions in the laboratory, which is used to test coated and uncoated fabrics, are 70° F. and 65% relative humidity. Relative humidity is particularly important, according to William Corry, laboratory manager, because the strength of various fabrics depends on the humidity at which they are tested.

Cottons, for instance are relatively stronger at humidities higher than 65%, while rayons will show up weaker. As a result, the government has selected this particular humidity level to be the test condition.

The testing laboratory is a cement block room measuring 14 by 20 by 11 ft. It is built entirely within the main laboratory itself.

Space considerations required that the air conditioning unit be placed outside the testing laboratory. Only room outside was a narrow corner immediately behind the laboratory. It was here that Greenwald built his unit.

He used a 3-hp. Copeland compressor and mounted on top of it a Marlo air conditioning unit with heating and cooling coils. A short duct from the top directed the conditioned air into the laboratory just below ceiling level.

Inside the laboratory, just beneath the air discharge grille, Greenwald installed two steam jet coil loops to add the necessary humidity to the air.

The steam jet coils are controlled by a humidistat on the laboratory wall. One or both of the jets can be operated as needed. Small holes in the upper part of the loop shoot live steam into the air stream coming through the discharge grille.

By this method, the steam is completely vaporized in the air and distributes the humidity evenly around the laboratory, Greenwald explained. Adding the humidity in the air conditioning unit itself would have caused condensation to collect on the discharge grille, resulting in water dripping down the

wall, he said.

A Minneapolis-Honeywell recorder indicates that the system holds the temperature to within a degree of 70° F. and the humidity within 2% of the required 65%. The air in the laboratory is changed 15 times an hour.

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Current Literature

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

Defense Materials System Booklet Offered by U. S.

KEY NO. Q-510

WASHINGTON, D. C.—Publication of a handbook on the Defense Materials System has been announced by the Business and Defense Services Administration, United States Department of Commerce.

The 41-page booklet titled "The Defense Materials System in Our American Industry" is now on sale by the Superintendent of Documents, Government Printing Office, and the Department of Commerce Field Offices at 25 cents a copy.

Sinclair Weeks, Secretary of Commerce, in "A Message for Industrial Management," that serves as a forward, stresses the need for a "functioning material control system designed to permit rapid industrial mobilization in case of war.

"DMS serves this purpose," the forward continues. "The rules have been made simple. All except the most essential paper work has been eliminated. Industrial contractors and subcontractors for pro-

grams of the Department of Defense and the Atomic Energy Commission have the responsibility for acquainting themselves with the few remaining rules and regulations.

This manual is designed to aid in this task. It has been arranged so that each type of contractor and supplier may find a handy reference to the general rules applicable to his defense contract operations.

Key questions and answers on the essential points of the Defense Materials Systems precede the detailed description and instructions intended for defense contractors.

In recognition of the importance of the Defense Materials System to our national security, the Department of Defense requires all of its contractors to agree that they will follow the provisions of applicable rules and regulations of the Business and Defense Services Administration, including DMS Regulations, in the procurement and use of materials required for the performance of their contracts.

Gas-Fired Boilers Covered In Worthington Bulletin

KEY NO. Q-511

HARRISON, N. J.—Worthington Corp. has issued a new bulletin on types AO and BA cast iron gas-fired boilers for hot water, steam heating, and hot water supply.

The new bulletin consists of a three-page fold-out which illustrates in color the AO and BA units. A cutaway of each unit enables the reader to see the various working parts each of which are consecutively numbered and explained.

Specifications tables are included. A chart for each unit lists the various dimensions in inches for operation with manufactured, natural and mixed, and propane gases. Information is also included on the exact size of boilers for nearly every residential requirement.

Directory of Refrigerated Warehouses Available

KEY NO. Q-512

WASHINGTON, D. C.—The 1955 Directory of Public Refrigerated Warehouses is available at no charge to firms using the facilities of refrigerated warehouse for the storage of perishable commodities, the National Association of Refrigerated Warehouses has recently announced.

The directory, which is published

annually by NARW as a service to its members and the perishable foods industry, is a comprehensive guide to public refrigerated warehouse space—local, national, and international.

It contains detailed listings of all NARW member plants, including storage space capacity (freezer and cooler), personnel, railroad lines, insurance rates, investment figures, and special services rendered by the individual plants. Included also are detailed listings of NARW associate members, well-known suppliers to the perishable foods industry.

Suppliers may obtain a copy for \$10.00

Philco Accessory Catalog Has Quarterly Supplements

KEY NO. Q-513

PHILADELPHIA—A completely new type of parts and accessories catalog is currently being offered all Philco electronic and appliance dealers and servicemen, the company has announced.

Bigger, more comprehensive, and easier to use, the catalog provides an exceptionally convenient reference, according to James J. Shallow, general manager of Philco's Accessory Div.

The catalog contains part and accessory descriptions, ordering and price information, technical data, and display material arranged in an attractive new design format, he said.

Current information on all products, including over 24,000 genuine Philco service parts and universal replacement parts, as well as other make electronic and appliance products, has been catalogued by part number for convenience in ordering.

Newly-developed technical material on standard and special parts based on field experience and laboratory information is incorporated to provide valuable library reference, the manufacturer further stated.

In addition, to insure constantly up-to-date price information, catalog holders will receive quarterly supplements containing all price changes.

The new format includes the story and location of Philco warehouses stocking Accessory Div. products.

Copies of the 1955 Philco Parts and Accessories Catalog are available to Philco dealers and servicemen through their local Philco distributors.

Ice Cube Maker Described In Nor-Lake Catalog Sheet

KEY NO. Q-514

HUDSON, Wis.—Production of ice cubes for as little as 7½ cents a bushel with the Nor-Lake ice cube maker is described in a catalog sheet recently issued by Nor-Lake, Inc. here.

The two-color literature contains descriptions and advantages of the unit, with photos and complete product specifications for both the self-contained and remote models. Both models assure a clean, constant supply of cubes in their automatic shucker-type trays, according to the manufacturer.

I-B-R Ratings of Boilers Published by Mfr's. Group

KEY NO. Q-515

NEW YORK CITY—An illustrated pamphlet "What Standard Do You Demand?" outlining the significance, advantages, and basis of I-B-R Ratings of boilers, baseboards, and commercial finned-tube radiation, has been published by the Institute of Boiler & Radiator Manufacturers.

Written for architects, engineers, builders, and others who specify or install heating equipment, the pamphlet discusses the value and importance of these ratings as impartial, permanent standards.

A major function of the institute, the maintenance and policing of I-B-R Ratings is receiving increased emphasis, according to R. E. Ferry, general manager of the institute.



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WATER DEFROST is fast, easy, positive, economical. Ordinary tap water, controlled by an automatic timer, periodically washes the frost off. That's all there is to it. Low cost equipment. Low cost installation. Low cost operation. Does not complicate the refrigeration system or cause service problems. And patented RECOLD Water Defrost is so fast—four or five minutes—that you actually continue to freeze while defrosting. For every type of low temperature application,



from the world's largest refrigerated warehouse to a reach-in refrigerator, RECOLD Water Defrost Coils have established an outstanding record of performance. Be sure. Specify RECOLD Water Defrost Coils.

Recold WATER DEFROST COILS

Fast • Simple • Easy • Dependable

Write for illustrated folder

Refrigeration ENGINEERING, INC.

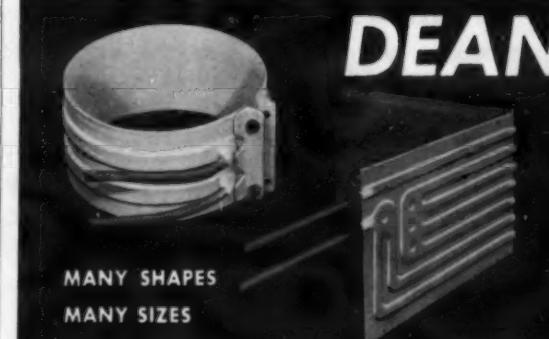
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Manufacturers of Air Conditioning and Commercial Refrigeration Equipment



TAME TOUGH Refrigeration PROBLEMS with "JOB TAILED"™

DEAN COLD PLATES



SAVE money with DEAN "job tailored" cold plates...made exactly in the size you need—in zinc metalized steel, stainless steel and other metals—in cylinders, U's, angles, tanks, etc. Also in plates for baudelot-type coolers.

SEND FOR TECHNICAL DATA BOOK

Contains valuable details on DEAN COLD PLATES for various applications. Write for your copy today!

DEAN PRODUCTS, INC.

Dept. AC
1042 Dean St. STERLING 9-5400 Brooklyn 38, N.Y.



In National Advertising

Emphasis on Room Air Conditioner Price Only Leads to Customer Disappointment

CHICAGO—Criticizing emphasis on product price in national advertising, Kenneth G. Gillespie, vice president and general manager of Jenkins Music Co., Kansas City, recently cited air conditioner ads and TV-radio commercials.

In a statement prepared for a panel discussion on advertising and sales promotion at the annual convention of the National Appliance & Radio-TV Dealers Association, Gillespie said, in part:

"Look at the air conditioning ads—listen to their television and radio programs.

"Most manufacturers will lead the salesman and his customer to believe—not, of course, by actual statement, but by inference—that

an unusually large amount of space can be air conditioned for as low as \$199.

"But, when the salesman attempts to sell a customer on the sales floor intelligently and honestly, he must disappoint that customer by trying to convince him that it will take from \$300 to \$400 to properly air condition the space desired.

"The salesman, against the manufacturer's advertising, must convince the customer that he cannot possibly obtain an effective cooling operation without paying anywhere from \$40 to \$100 in addition for an adequate 220-volt wiring installation.

"Even if he could get by on 110 volts, the efficiency would be low. But, national advertising will tell you that for just \$199.95 you can obtain cool, clean, refrigerated comfort."

ROOM AIR CONDITIONER DEALERS & INSTALLERS DON'T BE WITHOUT A ... HACO LOAD-VOLTAGE ANALYZER



A portable testing instrument that quickly determines WITHOUT the necessity of first installing the air conditioner the voltage adequacy of an electrical circuit for efficient usage of $\frac{1}{2}$, $\frac{1}{4}$ & $\frac{3}{4}$ -HP Units (115 V).

- Will help overcome problems of inadequate Voltage & Overloaded Circuits.
- Will increase your Sales—An impressive Sales Tool.
- Sturdily constructed. Will give accurate performance to user in the field.

GET OUR NEW BULLETIN! ASK YOUR WHOLESALER—OR WRITE US.

Manufactured by
HEIGHTS AIR CONDITIONING COMPANY
3607 Hildana Road Cleveland 29, Ohio

J. F. Dolland Appointed Mfg. Vice President For O. A. Sutton Corp.

WICHITA, Kan.—Appointment of Joe F. Dolland as vice president in charge of manufacturing for The O. A. Sutton Corp. has been announced by O. A. Sutton, president and chairman of the board.

Dolland has been associated with Magnavox Corp. in Greenville, Tenn. as general manager. Previous to his employment there he was associated with Coolerator and the Seeger Refrigerator Co.

He graduated from Iowa State Teachers college with a B.A. and spent one year at the Harvard Graduate School of Business. He holds an industrial engineering degree from the Chicago Industrial Engineering college.

SYB Adds Builders Div., Names Harrison Head In Expansion Move

LOS ANGELES—Addition of a Builders Div.—the latest major organizational step in a year of unprecedented expansion at Sues, Young & Brown, Inc.—was announced recently by Charles P. Culbert, vice president in charge of sales for the Los Angeles distributor of Norge, Zenith, Lewyt, "Vornado," and other electrical appliances.

The new division will handle the complete Norge line of built-in ranges as well as the product in which they will be prominently featured: "Beauty-Queen" kitchen cabinets, manufactured by Toledo Desk & File Co., a subsidiary of Crane Corp.

Completing the SYB Builders Div. lineup are Vornado air conditioners and air circulators, spotlighting a new packaged central system summer air conditioner, and other products soon to be announced.

Named by Culbert to head the new SYB activity was William P. Harrison, manager of the company's General Appliance Div. since 1949.

He will be replaced by Peter R. Frank, who moves over from his post as SYB advertising and sales promotion manager, the announcement said.

WHAT . . . WHEN . . . WHERE

A Guide to Some Coming Events of Interest

Super Market Institute Convention and Exposition
May 1-4, Cleveland Public Auditorium.

National Restaurant Association Convention and Exposition
May 9-13, Navy Pier, Chicago.

Heating, Piping & Air Conditioning Contractors National Association, Annual Meeting
May 10-13, Shamrock hotel, Houston.

Air Conditioning & Refrigeration Institute (ARI) Annual Meeting
June 5-8, Hot Springs, Va.

American Society of Refrigerating Engineers (ASRE) Summer Meeting
June 12-15, Schroeder hotel, Milwaukee.

National Association of Retail Grocers, Semi-Annual Meeting
June 12-16, Navy Pier, Chicago.

Mid-Year Home Furnishings Market
June 20-30, American Furniture Mart and Merchandise Mart, Chicago.

American Society of Heating & Air Conditioning Engineers (ASHAE) Regional Meeting
June 27-29, San Francisco.

Exposition of Air Conditioning & Refrigeration Industry
Nov. 28-Dec. 1, Atlantic City, N. J.



LOOK CLOSELY
this new LOYD SCRUGGS
6-pole shaded pole motor may be your answer!

If you're looking for reliable custom-built motor service at stock motor prices, let Scruggs be your source of supply. Sample motor to your specs can be furnished immediately. New plant facilities now permit wider scope, quick deliveries, lower pricing.

You can stake your reputation on SCRUGGS MOTORS

Loyd Scruggs COMPANY
Festus, Mo.—A Dazey Corporation Subsidiary
MANUFACTURERS OF PRECISION INSTRUMENTS SINCE 1934

CHECK THESE QUALITY FEATURES

1. Copper-weld rotor for uniform performance.
2. Long-life sintered bronze bearings.
3. Extra large oil reservoirs.
4. Extremely quiet running.
5. Rotor electronically balanced.
6. Double varnish impregnation.
7. Design practically eliminates AC hum.

MUELLER BRASS CO. PORT HURON 9, MICHIGAN

the best performers on earth
MUELLER BRASS CO. Streamline
REFRIGERATION AND AIR CONDITIONING PRODUCTS

Step right this way, refrigeration men, see the spectacular parade of the greatest performers on earth now at your wholesaler's.

packed line valves

Mueller Brass Co. globe line valves are real tigers for performance. They're quick to respond . . . they open easily, close firmly, are simple to install, sleek and smooth in appearance.

copper tubing

Don't stick your neck out like the giraffe, use only the best . . . use clean, bright Mueller Brass Co. copper tubing . . . it's right for every job.

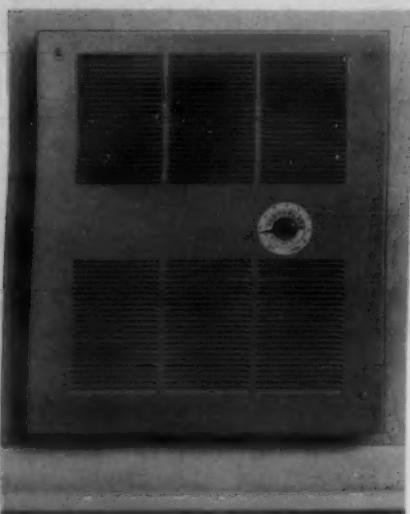
SEE THIS DISPLAY AT YOUR WHOLESALER'S

This ad only shows part of the parade . . . see the giant, colorful "flying mobile" now on display at your wholesaler's, attracting attention to the "best performers on earth".

What's New

When requesting further information on new products, please use "Information Center" form.

Recessed Unit Air Conditioning System Offered



KEY NO. E-510

MADISON, N. J.—Westcott-Alexander, Inc. here, manufacturer of the "Percoflash" line of boilers, convectors, and baseboards, has announced introduction of the Percoflash recessed unit air conditioning system, described as "a central system with forced water for balanced heating and cooling.

Percoflash systems can be specified for structures of all sizes

and types, according to the company.

"Because of the wide variation in output for both heating or cooling, depending on the dial-speed selected, capacities can be increased on commercial and industrial applications over the recommended maximum for domestic applications," the manufacturer stated.

Independent operation of Percoflash units is claimed to permit "perfect temperature balance" between rooms when heating or cooling. Each unit is equipped with a manual unit speed control for individual room temperatures.

Units measure 17 1/4 in. by 14 in. by 4 1/4 in., and are installed vertically flush to the wall between studs. All piping is concealed.

Units filter air as well as heat or cool each room using individual room air filters. Year-round Percoflash systems can be installed on two pipe balanced reverse systems, single or multi-loop "Monoflo" systems, or single or multi-manifold parallel systems. They are available in complete package units.

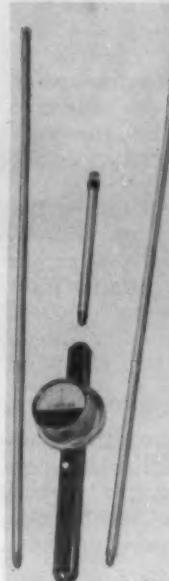
Victory Offers Portable Electric Thermometer

KEY NO. E-511

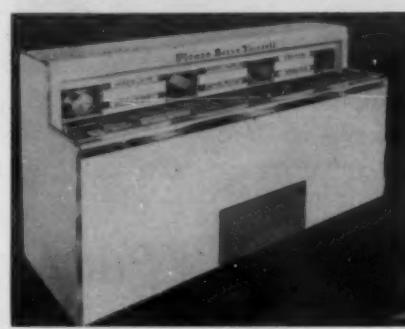
UNION, N. J.—A portable electric thermometer for instant and accurate temperature readings at the push of a button has been announced by Victory Engineering Corp. here.

Named the "Veco Thermprobe," this thermometer was developed for operations where frequent temperature checks must be made—air conditioning and heating, storage and warehousing, florist hot houses and nurseries, and freight car and truck refrigeration.

The basic Thermprobe unit (model 191) consists of a meter, two extension tubes, and one air temperature sensing probe. The probe utilizes a Veco thermistor, a tiny semi-conducting bead sensitive to temperature changes. Extension probes permit effortless ceiling or floor level readings. The entire unit weighs only 22 oz., retails for \$89.50 complete.



Howard Frozen Food Case Has Automatic Defrost



KEY NO. E-512

PHILADELPHIA—Howard Refrigerator Co. here has announced addition of a new automatic defrost frozen food and ice cream freezer display case to the Howard line.

Available in two models, OF-16 and OF-22, with capacities of 16 cu. ft. and 22 cu. ft., respectively, the self-service case is designed for extreme shopping convenience, it was pointed out.

The top of the case at the product display opening is approximately table top height. And, according to Albert Fogel, president of Howard Refrigerator, the overall height of the new Howard unit is designed to line up against walls with a continuous run of multiple installations as well as for center aisle use where back to back cases are placed for self-service merchandising in food markets.

The entire display compartment

of the case is arranged with adjustable divider racks to provide for orderly display of ice cream and/or frozen food packages of every size.

Fogel said the case will incorporate the new Howard "Frost-Free" patented automatic refrigeration system, a hot gas defrost timed cycle where no outside drains are required.

"The entire system is fully self-contained and simplified without the use of blowers, thereby eliminating the tendency to blow out cold air from the case," it was stated.

"With this system, low temperatures are maintained at the very top of the case equally as well as any other part of the case, thus keeping ice cream and frozen food packages hard at all times."

"Another feature of the new case is its attractive illumination throughout with fluorescent lighting concealed within the superstructure, thus illuminating also the three dimensional product picture frame and listing moulding," the company said.

Model OF-16 dimensions are: Length, 72 in.; height, 49 in.; depth, 32 in. It is powered by a "Copelametic" 3/4-hp. compressor.

Dimensions of model OF-22 are: Length, 96 in.; height, 49 in.; depth, 32 in. It has a Copelametic 1-hp. compressor.

New Wyco Angle Head Features Quick Change

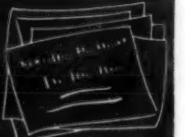
KEY NO. E-513

CHICAGO—Wyzenbeek & Staff, Inc. announce a new "Quick-Change Angle Head" which features thumb controlled water feed, fully protected copper feed line, adjustable wheel guard, and precision ball bearings.

The quick-change feature permits the user to rapidly change from coarse to fine grinding wheels or to a straight handpiece, according to the company. These angle heads are designed for use with WYCO flexible shaft grinders.



Information Center



For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

What's New or Current Literature Available

Key No.	Key No.
Key No.	Key No.
Key No.	Key No.
Key No.	Key No.

Products Advertised

(list name, page, and issue date)

.....

.....

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.....

(PLEASE PRINT PLAINLY)

Name Title
 Company
 Street
 City Zone State
 Type of Business

MAIL THIS FORM TO

AIR CONDITIONING & REFRIGERATION NEWS
 Readers Service Dept.
 450 W. FORT ST.

DETROIT 26, MICHIGAN

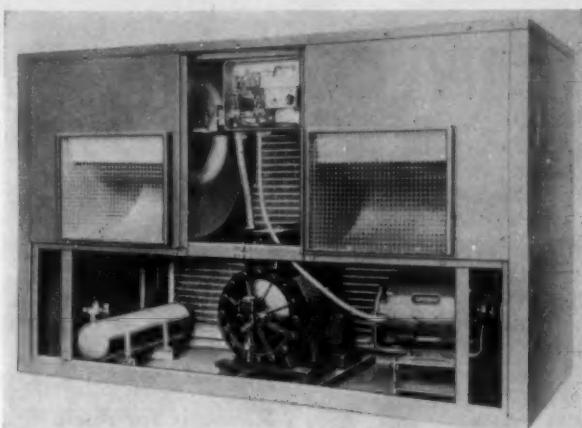
*for tubing
that can take it—
and can take
any shape*

*Remember
GM STEEL TUBING
By Rochester Products*

GM STEEL TUBING BY ROCHESTER PRODUCTS, DIVISION OF GENERAL MOTORS, ROCHESTER, N.Y.

What's New (Con't)

5-Hp. Air-Cooled Unit Designed for Big Installations



KEY NO. E-514

MINNEAPOLIS — A 5-hp. air-cooled condensing unit, designed to provide air conditioning for commercial buildings and large residential installations, is announced by the United States Air Conditioning Corp.

The new equipment can be used to provide cooling alone or to convert an existing warm air heating system to year-round air conditioning.

Offering the same installation

and operational advantages of the 2 and 3-hp. UsAirco "Kooler-aire" units which were introduced earlier this year, the new device is remotely installed and used in conjunction with a housed direct expansion cooling coil or coil and blower combination.

Its component parts include a compressor, motor, receiver, and condensing coil. Copper tubing carries the refrigerant to and from the cooling coil, which is installed in the duct air distribution system.

Federal Restyles Self-Service Display Case Line



KEY NO. E-515

WAUKESHA, Wis. — Complete restyling of every model in the Federal 1955 line of self-service display cases has been announced by John Romadka, president of Federal Refrigerator Mfg. Co.

All these "Super-Sell" cases can be furnished in colors to match store decoration, it was pointed out.

The 1955 line includes new models, both self-contained and remote, for single or continuous-line, lower-level display of frozen foods, meats, vegetables, and dairy products.

"All models feature modernistic new styling, increased capacity-per-square foot, improved visibility and loading, and larger display volume," the company said.

Super-Sell display cases will be available in the open-deck types, with superstructures, double or triple deck types, and a brand new island model designed particularly

for frozen food packages. New vegetable or produce cases feature a choice of two superstructures with permanent, sliding, or "look-through" mirrors.

Federal's "add-a-section" construction is standard on most models, permitting easy installation of style-matched units for continuous-line display.



Electric Wringer Operates Only By Foot Pedal

KEY NO. E-516

NEW YORK CITY — A new "Aerator" washer, model "55," equipped with a large sized electric wringer has been introduced by Monitor Equipment Corp.

Features are: modern styling with a stainless steel washtub and a white enamel outside cabinet which is said to keep the water hot longer, and the wringer which folds into the tub.

Safety features are provided because the wringer operates only when the operator steps on the foot pedal at the base of the cabinet. When the wringer is folded into the washer a heavy plastic work surface top is provided.

Prices start at \$59.95.



"My Typhoon District Manager is always Johnny-on-the-spot," says Don Kissell (left), Typhoon Los Angeles dealer.

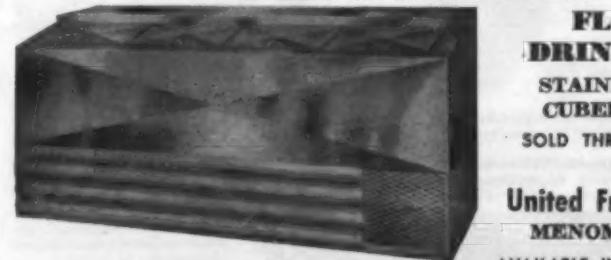
TO GET ON THE MOST PROFITABLE FACTORY-DEALER TEAM IN THE BUSINESS, TIE UP WITH

TYPHOON
AIR CONDITIONING

505 Carroll St.,
Brooklyn 15, N.Y.

*COMMERCIAL AIR CONDITIONERS, 1 TO 25 TONS
*RESIDENTIAL YEAR-ROUND UNITS FOR GAS OR OIL
*ROOM AIR CONDITIONERS, 1/2, 1/2, 1/4, 1/2 H.P.
*PACKAGED HEAT PUMPS, RESIDENTIAL & COMMERCIAL

"A CASE OF COOL JUDGMENT"



**FLO-COLD
DRINKMASTER**
STAINLESS STEEL
CUBER — COOLER.
SOLD THRU DEALERS ONLY

WRITE

United Frigulator Engrs.
MENOMINEE, MICH.
AVAILABLE IN SIZES 4 TO 10 FT.

Cryostat Permits Manipulation Through Armholes

KEY NO. E-517

CAMBRIDGE, Mass. — A new microtome cryostat developed by the Harris Refrigeration Co. here, permits manipulation of pathological specimens at accurately-controlled sub-freezing temperatures, Charles C. E. Harris, president, announced recently.

The unit will accommodate a rotary microtome which can be operated through gloved armholes lined with lambs' wool. A non-fogging window and interior fluorescent illumination provide visibility for the operator.

Pathological research specialists have worked in close conjunction with Harris Refrigeration engineers in the design and construction of this cryostat. Experimental models have been tested thoroughly over a five-year period to prove their reliability.

The Harris cryostat has been used extensively for microtome operations on animal tissue sections at controlled temperatures near -17° C. Sections as thin as four microns are cut and placed between glass slides in the cryostat chamber without even momentary exposures to room temperatures.

The Harris cryostat aids in a variety of operations at temperatures down to -40° C. The working chamber measures 6 cu. ft. Constant temperature is maintained throughout the chamber by a fast-action, hydraulic-type ther-



mostat, accurate to $\pm 1^{\circ}$ F., and a "Freon" refrigeration system.

An external foot switch is provided to stop fan and compressor during delicate manipulations. Low wattage heaters around viewing port, door, and armholes prevent condensation.

Access to the working chamber is gained by an 8-in. by 4-in. specimen removal door in the cryostat nose. The entire nose section is also hinged for introducing the microtome or other equipment. Two $1\frac{1}{4}$ -in. cylindrical holes are provided in the rear to accommodate suction or gas lines for chemical operations.

The exterior of the Harris cryostat is finished in all-welded, stainless steel. Rubber-wheeled casters provide mobility. The working chamber, finished with a hot-

sprayed zinc coating, is easily cleaned.

Chamber-wall refrigerant piping has been eliminated by honeycombed channels formed in the walls. Total weight is 400 lbs. Power requirements range from 500 to 1,400 watts depending upon the desired temperature range.

Direct Lift Solenoids Made in Brass, Stainless Steel

KEY NO. E-518

INDIANAPOLIS — One-page bulletin F-1 illustrates and describes the new direct lift solenoid valves made in brass (Type F) and stainless steel (Type G) by J. D. Gould Co.

Designed for general service, the new valves are made in $\frac{1}{8}$ -in. and $\frac{1}{4}$ -in. pipe sizes, with ports from $\frac{1}{16}$ in. to $\frac{1}{4}$ in.

Special feature of the new valves is the possible maximum pressure of 1,000 p.s.i. for air and gas; 600 p.s.i. for water; 500 p.s.i. for oil; and 200 p.s.i. for steam.

The new valves have renewable metal seats and coils are interchangeable with those of other Gould valves.

List prices start at \$11.50 for the brass type, and \$15 for the stainless steel type.

2-IN-1 ICE SERVICE



PAYS FOR ITSELF...

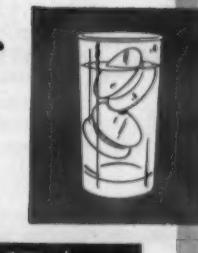
Ends All "Ice Worries!"

You can use your prospects' own records to prove to them that the CRYSTAL TIPS or CHIPS Automatic Ice Maker will pay for itself in a short time. Many owners get their original investment back in less than a year—after that ice costs them only pennies for water and electricity.

Show them that a CRYSTAL TIPS 2-in-1 Ice Maker provides a constant, full supply of pure, fresh sparkling Tips or Chips—the "cube" size Tips, or by the flip of a switch, the fast cooling Chips. No crusher! No grids! No fuss! No muss! No waiting around for deliveries!

Its versatility, convenience, proved dependability and smart design makes the CRYSTAL TIPS or CHIPS Ice Maker the leader in the field. Write us for franchise details.

**CRYSTAL TIPS
or CHIPS**



AUTOMATIC ICE MAKER



**..Saves up to 90¢
out of every dollar
spent for delivered ice!**

AMERICAN AUTOMATIC ICE MACHINE CO.

1783 FOURTH ST. N.W., FARIBAULT, MINN. A subsidiary of McQuay, Inc. Manufacturers of Heat Transfer Equipment since 1923

Lower Price, Better Performance Seen Vital to Growth of Auto Air Conditioning

Equipment Must Be Suitable for Installation On Assembly Line, Etheridge Tells Engineers

DETROIT—In order to fully capitalize on the vast potential market for automotive air conditioning, we have the twin problems of lowering the price to the ultimate consumer and the ever-present problem of improving performance, G. T. Etheridge, manager of automotive air conditioning for the Kelvinator Div. of American Motors Corp., told the Detroit section of the American Society of Refrigerating Engineers recently.

"Prices on original equipment systems today are generally in the \$350 to \$600 range with the majority closer to \$600 than \$350," he said.

Addition to Monthly Payments Must Be Low

"In order to attract the average buyer, the price must be brought down to a point where the additional charge for air conditioning does not represent a large percentage of the total cost of the car and to a point where the additional monthly instalment required to pay for air conditioning is not large.

"My own company has done a great deal already and I am sure much more will be done by the industry within the next two or

three years in the direction of lower prices."

Etheridge outlined a number of specific things on which considerable work must be done in order to both lower cost and improve performance.

"One of the first things," he said, "is to design equipment better adapted to production line installation in the car."

Installation Should Be Done on Assembly Line

"I am convinced that it is not economical to have the equipment installed by the dealer with relatively expensive shop labor and limited facilities. The right place to do the job is in the assembly plant where the complete automobile is put together."

Obviously, the air conditioning system cannot be installed on an automobile production line if the system involves all of the many bits and pieces which compose present-day systems.

"The time consumed in installing present-day systems would put an automobile plant out of business if line installation was attempted."

"One manufacturer this year has announced a system which is de-

livered to the automobile assembly plant in a complete package all ready to be dropped into place in the car. That will surely be the objective of all manufacturers in the future. To do that, it will be necessary to considerably simplify both the refrigeration and air circulation systems."

"Another problem is designing equipment to provide satisfactory capacity which will occupy considerably less space."

"Today's styling trends have brought about lower hoods and small engine compartments. Increasingly popular power steering and power brake equipment compete for the little space that is available in the engine compartment.

"The same thing applies to the space under the dash in the passenger compartment which is actually the most logical location for cooling and heating surfaces and ductwork.

"That condition will become increasingly rough in future years, so there is a major problem in reducing the physical space requirement of the air conditioning system components."

"More work must be done towards simplification of control to eliminate unnecessary components and the cost of wiring and installation. Yet, adequate control must be provided to make operation of



the system flexible enough to meet the demands of various individuals and the various operating conditions which are encountered.

"Great improvement has already been made in air distribution by some manufacturers by locating air discharge outlets at the front of the passenger compartment instead of at the package shelf level back of the rear seat cushion."

"In the interest of economy and performance there is still work to be done to provide discharge outlets which will comfortably and completely circulate either cool air in summer or warm air in winter throughout the passenger compartment so that all passengers can enjoy complete comfort."

Need for Spot Cooling Must Be Recognized

"Such an arrangement must recognize the need for 'spot' cooling to offset the effect of solar radiation on some passengers during summer weather. Obviously, the passenger on the sunny side of the car needs more air or at least more refrigeration than the passenger on the shady side of the same car."

"Every system that I know about at the present time provides for locating the condenser in front of the car radiator. Consideration must be given to finding a better and more efficient location for the condenser."

High Capacity, High Speed Compressor Required

"Compressors are another component which will be given a great deal of attention. The automobile air conditioning requirement poses many problems previously never encountered in refrigeration practice."

"The need for high capacity, extremely high speed operation, smoothness and dependability, all in a very compact space and of very light weight poses some highly interesting problems to compressor manufacturers."

"My own company, among others, has made great strides toward improvement of this major component."

"I am not at all sure that the present system of driving a compressor directly from the automobile engine by means of the 'V' belt is the best means of driving it. The answer might lie in a hydraulic or separate electrical drive. That is a tough one and it will be very interesting to watch developments in that direction."

"Up to this time, I believe everybody is using conventional tube and fin surfaces for condensers, evaporators, and heating cores. Again the pressure of cost and space limitation should stimulate

some good creative thinking toward use of more compact surfaces of probably considerably different form."

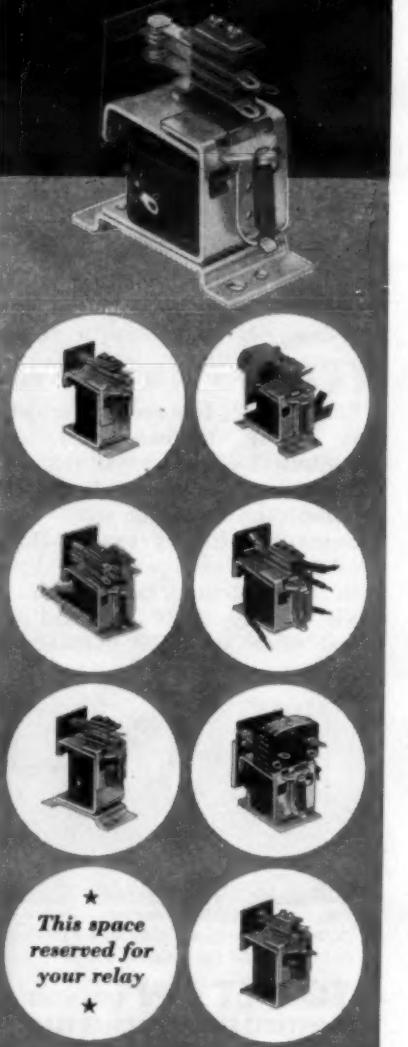
"All in all, the job ahead promises to be an interesting one. The challenge is a big one, but so too can the rewards be great."

Reasons for Auto Air Conditioning

Earlier in his talk, Etheridge pointed out that automobiles should be air conditioned for several reasons. These include driver and passenger comfort; less fatigue for all-day travelers; greater safety because the driver is more alert; a quieter, cleaner ride with all windows closed; increased productivity from salesmen, servicemen, and truckers who are on the road all day; better employee relations; and increased revenue from air conditioned taxi cabs and rental cars.

(Continued on next page)

What is YOUR RELAY PROBLEM



R-B-M General Purpose Relays...

have solved many specific relay problems with no development or tooling cost to the customer. RBM has produced hundreds of thousands of magnetic relays from standard parts—designed and initially produced over seven years ago—to fulfill the need for dependable relays at low cost.

The many variations of contact form and ratings, as well as terminal arrangements and mounting brackets, may well provide just the right relay for you. WRITE FOR BULLETIN 570—or better yet, tell us your requirements. Bulletin 570 shows only a few of the many variations that are available.

Whether a single relay or a relay panel complete with wire assemblies and cord sets, RBM may help you lower costs.

R-B-M DIVISION

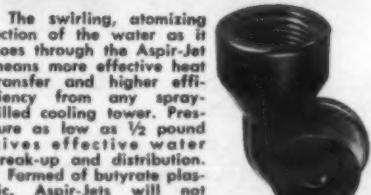
ESSEX WIRE CORPORATION

Logansport, Indiana



Controls for Electronic, Refrigeration, Industrial, Appliance, Communication and Automotive Industries

ASPIR-JET SPRAY NOZZLES RAISE TOWER EFFICIENCY



Available through Refrigeration and Air Conditioning Wholesalers.

Manufacturers & Refrigeration Wholesalers: If you are not now using or stocking this astounding new product, wire or write.

Thermal Agency

National Sales Agents
1515 DALLAS • HOUSTON, TEXAS

Wagner
ELECTRIC MOTORS
...the choice of leaders
in industry

WAGNER offers something NEW in small motors

More compact capacitor-start and split-phase motors— $\frac{1}{4}$ hp and below—that help the design engineer in a tight spot!

For design engineers who've been looking for more efficient fractional horsepower motors with less bulk... here's good news!

Now, you can get smaller, more compact Wagner capacitor-start and split-phase fractional horsepower motors with many new added features such as a new endplate design, a new lubrication system that permits all-angle mounting and a new terminal board and switch location.

Yet these re-designed motors retain all of the proven features that have made Wagner motors famous for quality for more than 60 years. Bulletin MU-200 gives complete information—write today for your copy. When you specify Wagner Motors—you get the advantage of a liberal warranty... of nationwide service facilities, with on-the-spot service, replacement motors and parts available from 25 Wagner-owned Service Branches and more than 850 Authorized Service Stations. You can choose from a wide variety of types and sizes—singlephase or polyphase—from 1/25 to 400 horsepower.

Inside view of sleeve bearing endplate with seal removed to show felt packing used for lubrication. In addition to the continuous strip, a spring-loaded piece of felt makes constant-pressure contact with the shaft through an opening in the top of the bearing.

View of the type RK motor with endplate removed showing terminal board on which thermal protector and quick-break switch are mounted. Note thickness of steel frame which has been machined for accurate endplate fit. Rigid base is welded directly to the frame.

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(Concluded from preceding page) relations, Etheridge commented that many people feel that unions will insist that long-haul truck operators provide air conditioning for the drivers.

To skeptics who think that air conditioned cars are only for the south, he pointed out the large number of business places and homes that are air conditioned in cities like Detroit because it is needed.

"If you are in any way skeptical of the advantages of an air conditioned car in Detroit," he advised, "just drive one for one day this summer."

Etheridge noted that Wards' Reports, which furnishes "very reliable statistical information on the automobile industry, show that in 1953 there were about 41,000 car-cooling units sold. In 1954, the figure rose to over 67,000. For 1955, they project a figure of 144,000, which, I believe, is conservative and which, even so, is more than double 1954 sales."

Predicts Volume Will Hit 1,000,000 Units per Year

He predicted that "it will be only several years before automobile air conditioner volume reaches the 1,000,000 per year sales rate.

"If you think that is a big figure," he said, "just remember that annual new car sales volume is generally estimated to be between five and six million cars per year for the next few years. So, if a million air conditioning units are sold, they will only air condition one out of every five or six new cars sold. That is certainly not a fantastic forecast."

"I would further point out that the automobile industry has done an outstanding job of determining what the public wants and providing it for them. This year, to the best of my knowledge, every popular make of automobile made in the United States is being offered with year-round air conditioning as optional equipment."

Heavy Load In Small Area

Offering a brief description of present day automobile air conditioning systems, Etheridge noted that the features of this type system are the very heavy load in relation to the small volume of conditioned space and the considerable variation in load.

"The effect of solar radiation on large glass areas and the relatively poor insulating values of sheet metal panels contribute to the heavy load," he said.

"And, of course, with increased car speed the transfer of heat through the walls of the passenger compartment is considerably increased. Also, at higher speeds there is greater leakage of warm outside air into the passenger compartment.

"Fortunately, as present systems are now set up, the capacity also rapidly increases as the engine speed increases. Actually the capacity required for a parked or slow-moving car is in the general area of 9,000 B.t.u. per hour.

"Most designers endeavor to

provide about that capacity in the air conditioning system with the engine at idle speed. If that criterion is met, then experience has demonstrated that there will be adequate capacity at high speed conditions.

"The very fact that compressor speed must vary with engine speed introduces some problems which we have not encountered in ordinary refrigeration application where we have long been accustomed to dealing with constant speed compressors.

Means of Control Must Be Introduced

"Obviously, as the speed increases and pumping capacity increases, the system ceases to be balanced and some means of control must be introduced to assure satisfactory operation.

"That is generally accomplished by use of a by-pass device in the system which opens a passage from the discharge-side of the compressor to the suction-side and permits refrigerant to flow through that passage instead of through the evaporator.

"In the Nash system, a thermostat is located at the evaporator surface. When the evaporator temperature falls to a level which would freeze the condensate on the evaporator, thereby blocking it and rendering it ineffective, the thermostat opens the solenoid valve and permits discharge gas from the condenser to enter the suction line to the compressor thereby reducing the amount of refrigerant pumped from the evaporator.

Controlling Refrigeration Temperature Isn't Answer

"Most designers agree that it is not practical or economically feasible to attempt to control passenger compartment temperature by controlling refrigeration temperatures.

"It is our belief that because of the many variables in passenger requirements, that the best results are achieved by providing for manual adjustment of air direction and quantity rather than attempting to control refrigeration quantity.

"Although the refrigeration circuit is basically the same, there are two general locations for the evaporator and blower assembly and delivery of air to the passenger compartment.

"Practically all of the earlier systems and many in current production locate these components in the trunk of the car and deliver air through the package shelf at the back of the rear seat.

More modern design locates these components under the hood or under the dash in the passenger compartment and delivers the air from or near the dash. Each system has merit and many strong supporters in the industry.

"It is my personal opinion that the factors of cost and better air distribution will ultimately cause all manufacturers to locate the low-side components in the front of the car."

Air Conditioning Preserves Cake Decorations

ST. LOUIS—Air conditioning is helping the new \$110,000 drive-in bakery of Al Marklin here to substantially boost sales of custom-decorated cakes.

The bakery is built on a hard surfaced parking lot which will accommodate 50 automobiles. It features a "drive-in window" which permits the housewife to shop for baked goods without getting out of the car, a separate doughnut bakery, a long list of rich, unusual pastries, and "custom service" on cakes, cookies, and other baked goods.

To promote custom-decorated cake sales, a refrigerated custom decorating room is used, located to the left of the U-shaped counter arrangement which makes up the retail store.

The room measures 11 by 6 ft., and is separated from the retail bakery sales area by a plate glass window 8 ft. long by 4 ft. high. Inside, stainless steel work tables and cabinets provide the operating area, while turn tables, stainless steel pots of colored icings, and the usual decorating funnels make up the equipment.

Because delicately-constructed cake decorations are likely to break down in high temperature and humidity, Al and Richard Marklin, a father and son team noted for particularly intricate cake decoration, arranged for spe-



AIR CONDITIONING keeps cake decorating room at 50° F.

cial ductwork from the bakery's 5-ton package air conditioner, located in the basement, to keep the cake decorating room at 50° F. or less at all times.

In the crisp, cool air provided, the job of custom decorating wedding cakes, birthday cakes, special congratulatory types, etc., is carried out far more rapidly with every tiny flower, letter, figure, etc., remaining neatly in place as soon as it is fabricated.

Located in the center of a parking lot surfaced with black macadam, the Marklin bakery is subjected to an extremely heavy sun load, and consequently, refrigeration is applied to every department. Included is a 12 by 8-ft. walk-in freezer, which operates at -5° F.

and a retarder of similar size maintained at from 25° to 30°.

"Most people noticed immediately that the custom wedding cake decorating room is refrigerated," Al Marklin said, "because of the heavy plate glass separating it from the rest of the retail area.

"When the customer comments on this fact, it gives us an excellent opportunity to demonstrate the care which we observe, both in protecting delicately-worked decorations from damage, and to eliminate any likelihood of dust or other damage to our cakes."

"The result has been a 25% sales increase in custom decorated cakes, over the best which we could accomplish in our former location in another section of the city."

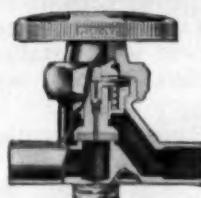
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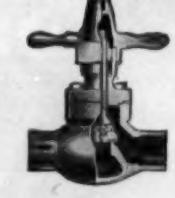


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Ball check in balancing channel permits diaphragm inspection and replacement with valves under line pressure. Sizes, 1/4" thru 5/8" flare; 1/4" thru 1 1/8" O.D. Solder, 1/4" thru 1/2" F.P.T.

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With bolted bonnets and square companion flanges. Furnished with brass tailpieces (O.D. Solder) 1 1/8" thru 5 1/8" or with steel tailpieces for welding to pipe, sizes 1 1/4" thru 5".

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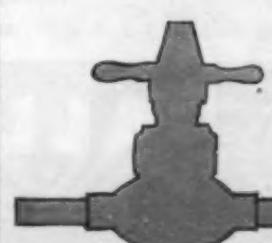
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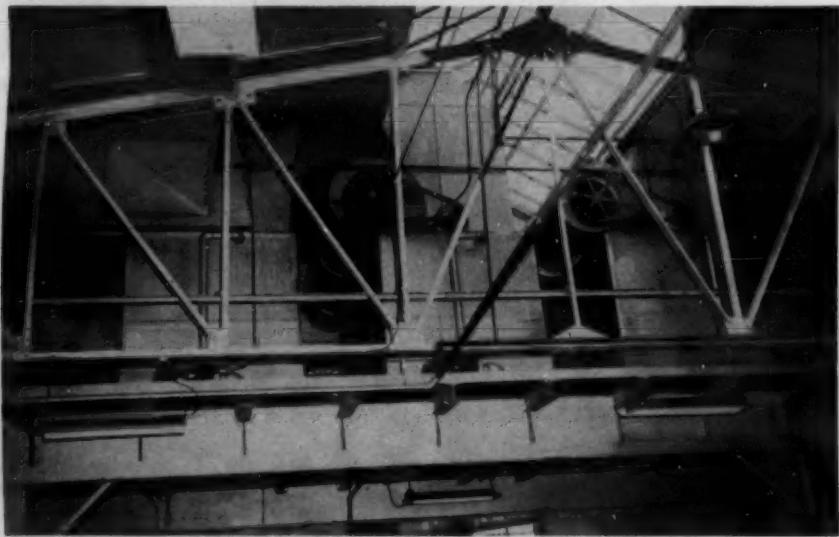
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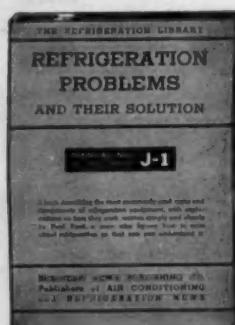
INSPECTING THE 40-hp. and 75-hp. Baker ammonia compressors that doubled the refrigeration capacity at the Feigenson, Inc. soft drink bottling plant are Howard Trumbo (l.) who "keeps things running" at the plant, and J. T. Coan of Motor City Refrigeration Co., who sold and installed the units.



THESE THREE DRY FAN EVAPORATIVE condensers serve the refrigeration system in the bottling plant, just below and behind the units. They are mounted at the high ceiling of an unheated warehouse. The two fans at the right draw air from inside the warehouse, while the fan at left pulls in air from the outside.

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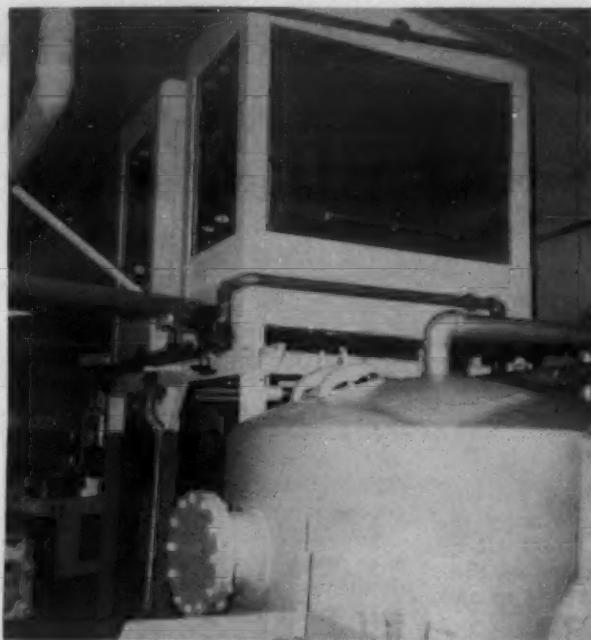
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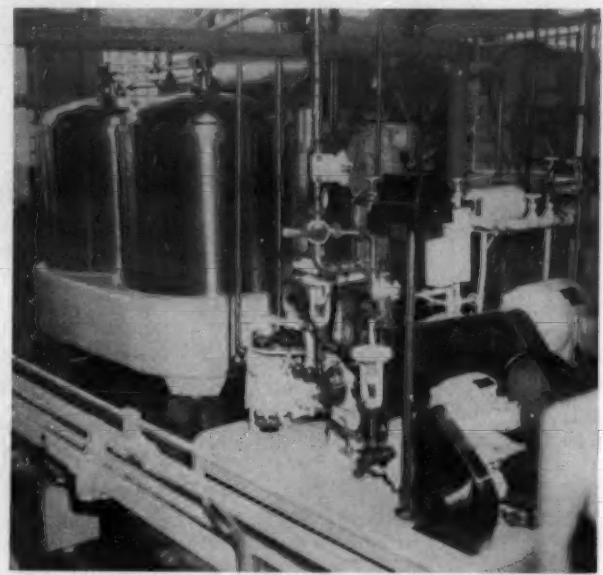
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TWO PRE-CHILLERS COOL city water down to 50° F. before it is piped to the carbo-coolers that serve the plant's two bottling lines. The 230-ton refrigeration system can cool 5,000 g.p.h. from 75° to 30° F.



VALVES IN THE FOREGROUND proportion chilled water and flavoring and feed it to the carbo-coolers at left. There the mixture flows over refrigerated plates and is impregnated with carbon dioxide. Then it is piped to high-speed bottling machines out of the picture to the left.

Faster Bottling In Faygo Plant Requires Twice As Much Refrigeration To Supply Cold Water

By George M. Hanning

DETROIT—To get enough icy cold water to keep pace with its new high-speed Mojonnier bottling machines, Feigenson, Inc., bottlers of Faygo soft drinks here, has doubled its refrigeration capacity during the past year.

With the addition of a 40 and a 75-hp. Baker ammonia compressor, the company now has 230 tons of refrigerating capacity in its bottling plant. The new equipment permits the plant to chill 5,000 g.p.h. of city water from 75 to 30° F., enough to keep the bottling machines turning out 390 12-oz. bottles a minute during peak periods.

J. T. Coan of Motor City Refrigeration Co., who made the installation, claims that this gives Feigenson the largest refrigeration capacity of any soft drink bottler in the city. With the firm currently expanding its plant to produce canned soft drinks, even more refrigeration equipment is expected to be added this year.

Prior to this installation, Feigenson had had a 30 and a 40-hp. York ammonia compressor and a 15-hp. Baker unit to handle its water chilling and carbonating needs. But when the modern, faster bottling equipment was installed, more refrigeration capacity was needed.

Coan, local Baker refrigeration equipment dealer, put in a Baker

model F69B ammonia compressor with 40-hp. motor and a Baker model 82B ammonia compressor with 75-hp. motor. The motors feature the Wagner increment starter and motor combination that Coan claims cuts operating costs.

All the compressors are grouped together in one corner of the bottling room and are hooked up into a single refrigeration system. Any combination of compressors can be used to give the company the amount of refrigeration needed for the volume of soft drinks to be produced at any particular time, according to Coan. For this purpose, controls are manually operated, rather than automatic.

Also installed were three model ECR 35A Baker dry fan evaporative ammonia condensers with capacity of 85 tons each, or a total of 255 tons. These are mounted on steel girders about 12 ft. above the floor of the warehouse directly behind the bottling plant. Two of the condensers draw their air from the unheated warehouse. The third is equipped with a fan housing and uses outside air only.

Coan noted that the Baker compressors were manufactured by the Paxton-Mitchell Co. of Omaha, Neb., which is now producing and distributing the entire Baker line of compressors.

The evaporative condensers were manufactured by the Refrigeration

Engineering Corp. of Los Angeles.

Howard Trumbo, who supervises the bottling operation, explained that the city water is first passed through a pre-cooler, where its temperature is dropped to 50° F. From the pre-cooler, the water is piped to a carbo-cooler, where automatic valves correctly proportion the water and flavoring.

The mixture flows down over refrigerated plates in the carbo-cooler, which chill it to 33° F. Carbon dioxide, piped to the carbo-cooler in gas form through a low pressure CO₂ system, is added. Then the mixture is piped to the bottling machines and bottled at a 38° F. average temperature.

Cooling the mixture down close to the freezing point is desirable, Trumbo explained, because at 35 to 38° F., the CO₂ can be put into the bottles with the least effort.

Trumbo commented that the present system of mixing the refrigerated soft drink ingredients before putting them into the bottle has greatly speeded up production. It also assures a more even quality drink than can be obtained by the older method of mixing the ingredients after they have been bottled, he said.

He pointed out that with the new high-speed machinery, the company can turn out at peak loads, 390 12-oz. bottles per minute or 220 qt. bottles per minute.

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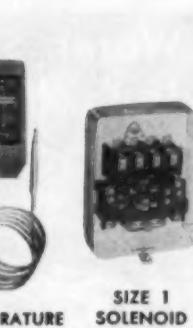
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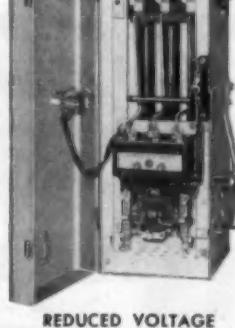
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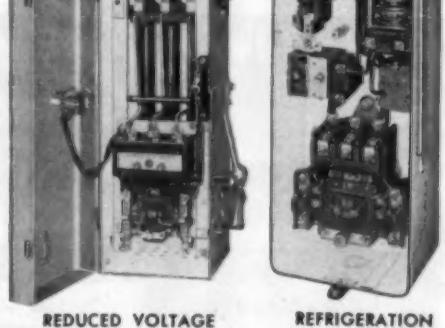
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SLANTS ON SERVICE

How to Use Flare Fitting Connection Successfully on Sealed System Repairs

"Some manufacturers are now encouraging and instructing servicemen in the proper methods of making field repairs of their hermetic equipment.

"But in making field repairs or replacements, we come across problems that the latter-day serviceman has perhaps never even heard of, or at least never has come across. For the moment, let's just take one, the frost pinch," says Virgil C. James, of Cuba, Mo.

In a factory sealed-unit assembly, everything is of course soldered or welded together in one continuous unbroken line: motor-compressor, condenser, strainer-dryer, cap tube, evaporator, suction line, motor-compressor. No flare nuts are used anywhere.

FIELD-ASSEMBLED JOBS USE FLARED CONNECTIONS

"In a field-assembled job, however, it is usually not practical to try to solder or weld everything together. So a lot of flared connections must be used. Now a flared connection properly put together looks tight and is tight and will stand the pressures without leaking.

"But often on the suction line joints of this type are made up with the flare nut in an upright position and the tubing leading down into it through the collar of the nut. This would be okay so long as the suction line did not frost back to that point. But such frost-backs do occur, especially if such a connection is inside the cooled space.

"On the off-cycle this frost proceeds to melt, leaving a trail of water on the suction line. Obeying the law of gravity, this water trickles down the tubing, lies on the collar of the flare nut, and a small quantity manages to seep down inside the flare nut and around the tubing, and stays there.

CRUSHING FORCE RESULTS

"The next 'on' cycle freezes this water. After this process has been repeated a few hundred times, enough ice forms inside the flare nut to exert a crushing force on the weakest thing it can find, which is the tubing.

"Thus the tubing is crushed or pinched together so firmly that a restriction occurs, and many a serviceman has torn his hair out over the puzzling high head pressure and low back pressure of a unit until he thought to look for just this type of trouble.

"It might be said that danger of frost pinching could be eliminated by installing suction-line flare nuts in other than vertical positions. But there is another little habit flare nuts have, too.

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"Sometimes they tend to work loose from vibration, anywhere, on suction or liquid lines; or, the expansion and contraction of metals due to temperature changes seem to have this loosening effect also.

"It was to get away from all such possible causes of leaks that everyone went all out for completely sealed systems in the first place," James comments.

"How, then, to use flare nuts, yet get away from the troubles caused thereby? What we want is a leak-proof, frost-proof joint.

SIMPLE METHOD DESCRIBED

"The following simple method has been developed, and so far results are excellent," he declares. "After a sealed unit system has been opened and purged and necessary repairs and replacements made, all connections are made with flared fittings. (In the case of cap tube assemblies, special threaded fittings to fit into flare nuts are available).

"The flare nuts are of course pulled just as tight as possible with standard flare nut wrenches. Then the system is doubly or triply evacuated, either by its own motor-compressor, or, preferably, if the job is done in the shop, by a separate vacuum pump.

"While the vacuum is being pumped, the collar of each flare nut, together with the adjacent tubing, is sanded or filed clean, paste flux applied, and a neat ring of solder is applied to the collar of the nut and well up onto the tubing. Some of the solder will also work down between the tubing and the nut.

"This ring of solder anchors the flare nut firmly in place, so that the tubing would be twisted out of shape before the nut would turn. And, of course, it positively prevents any moisture from seeping down between the nut and tube. If done right, it makes a very strong, durable joint," James says.

FIFTY-FIFTY SOLDER

"The purpose of doing this operation while a vacuum is being pumped is to get the extra advantage of evaporating any possible moisture in the system by means of the heat being applied along the tubing as well as by the simultaneous pumping of the vacuum. Fifty-fifty solder is just fine for the job.

"Of course, such soldering can be done only on an empty system. To attempt it on a charged system would result in the development of explosive pressures," he cautions.

"There has been some criticism of this method. If, for instance, we are going to solder on the job in the field anyway, why not just go ahead and seal it up again and not bother with the flare nuts?

"Well, as said before, perfect soldering is hard to do under field conditions, but it is simple to apply a ring of solder around the collar of a flare nut, especially when using low temperature solder. With this one can use the smaller hand torch. . . .

"Then the possible objection has been raised that the heating of the flare nut and tubing would cause expansion right then and there so that when both cooled down the joint might no longer be tight, even though the nut now cannot turn. This objection has not proved to be valid according to results obtained from the method.

"In the case of the special cap tube threaded fittings previously mentioned, a coating of solder is applied around all such and down onto the cap tube. In other words, the system is actually sealed better, if anything, than before, yet, if necessary, the 50-50 solder can always easily be melted off and a joint opened."

M-H Appoints Two Regional Managers For Heating Controls

MINNEAPOLIS — Appointment of two regional sales managers in the heating controls division of Minneapolis-Honeywell Regulator Co. has been announced by K. L. Wilson, manager of the division.

They are Robert W. Cleveland who will be in charge of the Pacific region with headquarters in Los Angeles and Gerald C. Cronau who will head the southwestern region in Dallas.

In their respective areas they will direct sales of automatic temperature control equipment for all types of residential heating and air conditioning.

Cleveland replaces W. H. Christensen and Cronau replaces Ed J. Regan, both of whom have been transferred to regional positions in Honeywell's Home Products division.

Cleveland served as an engineer with Honeywell from 1936 to 1938, was in the company's Aeronautical Div. from 1942 to 1944, and has occupied various sales positions in Minneapolis and Los Angeles since 1945.

Cronau joined Honeywell as a salesman in Milwaukee in 1947 and has been in heating controls sales work in the Chicago branch office since 1952.



Under the Big Top...A Campaign

WHEN SUMMER COMES, it's circus time, and the Mueller Brass Co. is in the main tent this summer with a new refrigeration act. The company has just launched a big unified campaign that includes a colorful "flying" mobile, a complete series of ads in national publications, special promotion literature, and other attention-getters, all carrying out the circus theme of "the best performers on earth" and featuring the company's many refrigeration products. Shown here talking over the campaign are (l. to r.) E. F. Hall, asst. manager, wholesale distribution div.; O. R. Payton, advertising manager; and C. R. Black, manager, wholesale distribution div. The flying mobiles will be going into wholesaler's showrooms, special promotion literature is being distributed, and a national ad campaign will keep interest centered all summer on "the best performers on earth."



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For the first time, light- and medium-duty trucks with their own individual styling—especially designed for the job! New Flite-Ride cab (even more durable!) features a Sweep-Sight windshield, High-Level ventilation, and concealed Safety Step running board.

A new 12-volt electrical system sparks all six new Task-Force engines. That means faster, surer starts; increased generator capacity. New suspension, front and rear, provides a smoother, more stable ride for both the driver and the load.



New Power Steering—Power Brakes!

Driving's easier and safer with these power helpers. Power Steering is available on all models as an extra-cost option. Power Brakes are standard on 2-ton models; optional at extra cost on all others. Tubeless tires are standard on 1/2-ton models!



New Overdrive—Hydra-Matic!

Count on big gas savings with the extra-cost option of Overdrive, now available on 1/2-ton models. Truck Hydra-Matic (optional at extra cost on 1/2-, 3/4- and 1-ton models) makes driving easier and saves valuable time on stop-and-go delivery jobs.

Refrigeration Problems and their solution by Paul Reed

For Service and Installation Engineers



Paul Reed

Find Leaks of 'F-22' vs. 'F-12'

QUESTION:

Since the introduction of "Freon-22," I have had many instances where I have had to add gas but was unable to find the leak.

This has happened in high and low temperature applications.

I am using a Prestolite leak detector that shows up "Freon-12" leaks very readily, but I seem to

have more trouble finding "Freon-22" leaks than "Freon-12" leaks.

Can you give me any reason for this, and do you know if other servicemen have this same trouble?

ANSWER:

Your experience is just the re-

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Presstite Tape contains 40% virgin cork and will adhere to any metallic surface. It never dries out, hardens or becomes brittle. Each convenient package contains a 30 ft. roll of tape 2 in. wide and $\frac{1}{8}$ in. thick.



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verse of what would be expected as to the relative difficulty in finding leaks of the two refrigerants, "Freon-12" and "Freon-22" (Genetron-12 and Genetron-141).

PRESSURES FAVOR FINDING "F-22" LEAKS

For the same temperature, the pressure of "Freon-22" is greater than that of "Freon-12." This is true on both the high pressure and low pressure portions of the system. In the condenser, receiver, and liquid line, the pressure of "Freon-22" runs from about 75 to 125 p.s.i. higher than the pressure of "Freon-12" at the same temperatures. In the evaporator and suction line, the pressure of "Freon-22" runs about 10 to 30 p.s.i. higher than the pressure of "Freon-12" at the same temperatures.

These higher pressures of "Freon-22," over "Freon-12," tend to make more "Freon-22" than "Freon-12" leak out of the same size hole. We would expect, therefore, that everything else being equal, leaks of "Freon-22" should be easier to find than those of "Freon-12."

The fact that "Freon-22" is mostly found in low temperature equipment might tend to offset its pressure advantage in that type of equipment as far as finding leaks are concerned. However this is true only on the low pressure side of the system. On the high pressure side the leak-finding advantage is still with "Freon-22" over "Freon-12."

COMPARISON OF SIZE OF MOLECULE

Theoretically, and based on molecular weight, "Freon-22" has a greater leak tendency than "Freon-12"; so if "Freon-22" tends to leak more than "Freon-12," "Freon-22" leaks should also be easier to find than those of "Freon-12."

It is generally considered that a refrigerant with a high molecular weight should have a comparatively low leak tendency, and vice versa. "Freon-22" has a molecular weight of 86.48 and "Freon-12" a molecular weight of 120.9. The sizes of the molecules vary inversely as the square roots of the molecular weights. So on the basis of molecular weight, "Freon-22" should tend to leak about 18% more easily than "Freon-12."

CHEMICAL COMPOSITION

On the other hand, the "Freon-12" molecule has two chlorine and two fluorine atoms, while the "Freon-22" molecule has the same number of fluorine atoms as "Freon-12," but has only one atom of chlorine compared to the two of "Freon-12."

The chlorine and fluorine are the halogen atoms, that are the parts of the two refrigerants that are active in affecting the halide torch and causing its flame to change color, thus indicating a leak.

Whether this lack of one halogen atom in "Freon-22," as compared to "Freon-12," makes it any less sensitive to the halide torch in detecting leaks than "Freon-12," is something that this author will leave to the physio-chemists to decide.

It seems doubtful, however, that this difference of one chlorine atom in the "Freon-22" molecule is enough to reduce the sensitivity of the halide torch enough to be noticeable in actual field practice.

FIELD EXPERIENCE

To the best of our knowledge,

this is the first time this subject has come up—that is whether or not "Freon-22" leaks are harder to find than "Freon-12" leaks. Moreover, we have not had any expressions from the service engineers indicating that this is true.

Since receiving this letter, we wrote to J. H. Spence, service manager of Hussmann Refrigeration, Inc., who manufactures refrigerating equipment using both "Freon-12" and "Freon-22."

He is in very close touch with field conditions and he stated that experience on his company's equipment did not indicate that "Freon-22" leaks were more difficult to find than "Freon-12" leaks. He further indicated that he had had no reports from service engineers that they were having more trouble finding leaks of "Freon-22" than leaks of "Freon-12."

All the indications are, that the experiences of our reader who wrote in, is either co-incidental, or that there is some peculiar situation that confronts him.

It is a possibility that, for example, they are handling a certain make of freezer using "Freon-22," that has a tendency to leak in one or even more places that are difficult to locate. If this is true, as much difficulty would be experienced in finding the leaks if this equipment were charged with "Freon-12," as is now experienced with the equipment charged with "Freon-22." That is, the fact that "Freon-22" is the refrigerant is merely a coincidence, and has no bearing on the difficulty in finding leaks on this equipment.

This is not given as a fact of course; merely as a possible reason for what otherwise does not appear to be in line with present experience in the field, nor in accordance with what we would expect, based on what we know of the properties and relative characteristics of these two refrigerants.

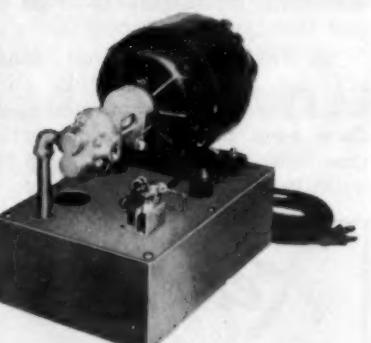
If any of our readers have any experience that would seem to indicate that it is more difficult to find "Freon-22" leaks than "Freon-12" leaks, we will be glad to hear from them, and to pass this information on to the rest of the readers.

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Crampton Mfg. Co. Acquires Conrad Inc.

GRAND RAPIDS, Mich.—The Crampton Mfg. Co., whose operating division, Grand Rapids Brass, is a large manufacturer of finished castings for appliance and automotive manufacturers and for the hardware trade, has announced the acquisition of the entire outstanding capital stock of Conrad, Inc., Holland, Mich., manufacturer of low temperature testing equipment.

Conrad, acquired through an exchange of stock, will be operated

as a wholly-owned subsidiary of Crampton. The Conrad company is supplementing its management with additional personnel and increasing its plant facilities, the announcement said.

Testing equipment made by Conrad includes both standard and custom built units ranging in size from chests of about 2-cu. ft. capacity to large walk-in rooms. The units embody controls for temperature, atmospheric pressure, and

humidity, with a temperature range from 500° F. to -150° F.

The equipment has a broad application in industry, including size control of parts and gauges, longer life for tools and dies, quality control and testing of wire, rubber processing and testing, biological testing, pharmaceutical production and testing, precision assembly of metals parts, Army, Navy, and Air Force tests, and testing of aircraft controls and guided missile components at all times," it was pointed out.

As a Crampton subsidiary, Conrad's sales volume is expected to increase during the next few years and will provide a new and diversified source of earnings for the parent company.

Officers of Conrad are: President, Charles F. Conrad; vice president and general manager, Lester Wilson; secretary-treasurer, Arthur Mitchell. H. E. Pleasant and B. A. Briton are also on the board of directors.

Herman E. Pleasant, president of Grand Rapids Brass, also announced that, as operations begin in the Grand Rapids Brass Div. new plant in Grand Rapids, the company's current civilian output is at an all time high.

Work is progressing on construction of two other plant buildings and an office building to be located on the site, and is scheduled for completion in July, 1955. Completion of the new plant facilities will increase the company's estimated productive capacity by about 100%, it was stated.

Plants Without Air Conditioning--

(Concluded from Page 1, Col. 4) quitting time in hot weather, and worked more efficiently.

"Our studies included consideration of a cross section of various types of light manufacturing and assembly plants in the metropolitan New York area and concerns both office and factory personnel," Rosenthal explained.

"Briefly, the study was conducted to determine the difference in performance that occurs above and below the condition of 71° effective temperature which has been found by the American Society of Heating and Air-Conditioning Engineers to be the optimum summer comfort condition in the New York metropolitan area.

PERFORMANCE RECORD STUDIED

"In making the study, the following factors were considered:

"1. In plants that were air conditioned, performance records of the operation before and after air conditioning in the plant were studied.

"2. In plants that were not air conditioned, performance records were studied covering the days that were below the 71° effective temperature.

"3. Productivity was also checked by comparing the performance of personnel of companies in which similar kinds of operations were performed."

Rosenthal said the study revealed that the average manufacturing industrial plant lost approximately \$108 per man per year as a result of the hot weather.

"The losses in the plants ranged from \$70 to \$220 per man per year depending on his earnings and the loss of productivity during the hot spell," he stated. "The \$108 figure is the arithmetic mean of the results that were compiled during this study."

WHAT LOSSES ARE DUE TO HOT WEATHER?

Rosenthal listed as follows some of the losses that can be attributed to hot weather:

"1. Loss of productivity.

"(a) Production generally decreases as the temperature increases, above the optimum temperature conditions.

"(b) During the uncomfortable period, there are many more 'breaks' for refreshments than there are during the cooler period.

"(c) Personnel start to close down and turn off their machines earlier during the hot days than they do during the rest of the year.

"2. Actual loss of time.

"(a) In some plants, management closes operations during the particularly hot days and allows the personnel to leave. In many of these plants management pays the personnel their standard rates.

"(b) Many personnel are absent during the hot spell, particularly on Mondays and Fridays.

"3. There are losses due to idle time of machinery and equipment causing delay in shipment and accumulation of a backlog of work. This causes inconvenience to production, planning, and sales department. In addition, it inconveniences the customers whose shipments are delayed.

"In addition to the foregoing," Rosenthal continued, "it was learned that there are other mea-

Servel V. P.--

(Concluded from Page 1, Col. 3) lift trucks, and assistant vice president of Lincoln Electric Co., of Cleveland, manufacturer of arc welding equipment.

As vice president and general manager of Servel's commercial refrigeration division, Morrill will be completely responsible for that division's engineering, procurement, manufacturing, distribution, sales, service, and profit-and-loss.

The commercial refrigeration division is one of six autonomous operating divisions in the new Servel organization chart which Menzies set up after becoming president of the company last September.

Products of this division are commercial electric refrigeration units, ranging in capacity from $\frac{1}{4}$ hp. to $7\frac{1}{2}$ hp., which are used to refrigerate many types of low temperature equipment for commercial and industrial use. Servel's manufacture of these units dates back to 1922.

Menzies said that "under Morrill's leadership, we expect the commercial refrigeration division to become one of the company's most important operations."

Morrill was graduated from Stanford university with a B.A. degree in engineering, and took graduate work in the Stanford University School of Business. His father, J. L. Morrill, is president of the University of Minnesota.

Rishel Joins Amana--

(Concluded from Page 1, Col. 4) sparked the company's record, Foerstner said, "but what has been particularly gratifying is the way our new room air conditioners have found such excellent acceptance.

"In areas of the south, where the retail selling season has actively begun, the response has been so impressive that we have stepped up our production quotas," he added.

Contributing to the substantial boost in freezer sales, Amana's official said, has been the mounting success of freezer-food plans operated by department stores, appliance stores, locker plants, and other food plan specialists.

"The record shows that freezer sales and saturation are growing," Foerstner said, "as more and more families are being convinced of the benefits of freezer living and are adopting the freezer as an essential part of their food preparation and food storage facilities."

New merchandising plans for the peak freezer and room air conditioner selling season were presented by Hinchliff; Merlin E. Morris, advertising manager; Wayne E. Harger, market research manager; and other staff members.



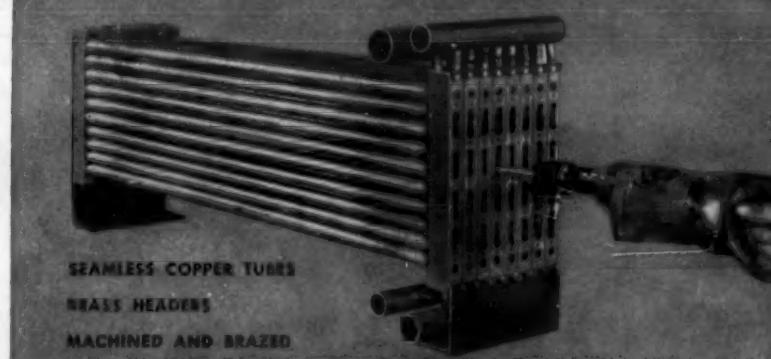
J. A. Rishel, Jr.

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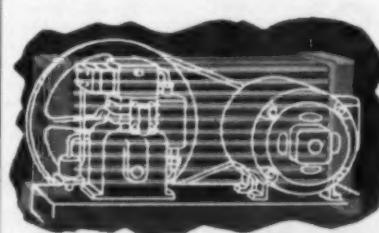
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WRITE FOR LITERATURE

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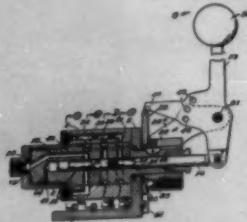
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PATENTS

Week of February 1 (Concluded)

2,700,925. ROTARY CONTROL VALVE. Vernon E. Gleesman, Cleveland, Ohio. Application Feb. 8, 1954, Serial No. 406,748. 18 Claims. (Cl. 137—622.5.)



1. A control valve comprising a housing having a bore closed at one end and open at the other end; a cover plate having a hole secured across said open end; a rotatable index selector snugly fitting within the bore and having a reduced extension extending through the hole and having a circumferential peripheral groove therein nearly encircling the portion within the bore leaving an ungrooved portion between the ends of the groove; said selector having an offset bore extending therein communicating with an axial inlet port in the closed end of the housing, and having a transverse index duct at the inner end of the offset bore extending through an ungrooved portion of the selector adapted in neutral position of the selector to communicate through said groove with an outlet port in the closed end of the housing; said housing having a series of spaced index ports therein opposite said outlet port and adapted in neutral position of the selector to all register with the groove; said selector having an axial bore extending thereto through said extension; an axially slideable valve in said axial bore having spaced reduced portions separated by a normal sized portion; an additional longitudinal bore extending into the housing substantially opposite the outlet port; said selector having a pair of other spaced circumferential annular peripheral grooves spaced from the first groove; radial ducts connecting the additional bore through said pair of other circumferential grooves respectively with the axial selector bore; a further duct in the selector connecting the first groove with the axial bore adjacent the outermost of said other radial

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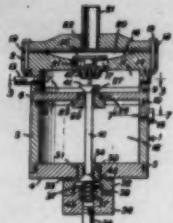
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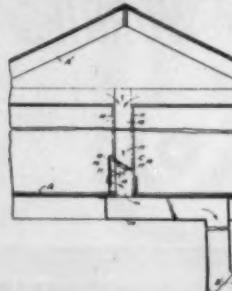
ducts, whereby when the slideable valve is in neutral position the innermost reduced portion thereof will connect the inlet and outlet ports of the housing, and the outermost reduced portion thereof will connect the additional bore with the outlet port, and whereby when the slideable valve is in another position the normal-sized portion thereof will block communication between the outermost radial duct and said further duct, and said innermost reduced portion will connect the first bore and the innermost radial slot to pressurize said additional bore; the fluid in neutral position of the selector passing from the inlet port through the offset bore of the selector and out through the said outlet port preventing pressure build-up in the circumferential grooves and additional bore.

2,700,987. PRESSURE CONTROLLED CONDENSATION DRAIN TRAP. Edward J. Whalen, Centerdale, R. I. Application March 7, 1952, Serial No. 275,407. 2 Claims. (Cl. 137—784.)



1. Operating means, for a spring tensioned valve stem in a condensation collecting chamber comprising a pressure chamber surmounting said condensation chamber and having a concave bottom with a central countersink therein, an air pressure inlet in the top of said pressure chamber, a diaphragm in said pressure chamber flexible downwardly under pressure against the same, and a follower in said pressure chamber beneath said diaphragm slidably extending through the bottom of the pressure chamber and seated on said stem, said follower being movable downwardly into said countersink by downward flexing of said diaphragm to operate said stem, said follower having a bored stem slidably engaged with said valve stem, and a head engageable by said diaphragm and fitting in said countersink.

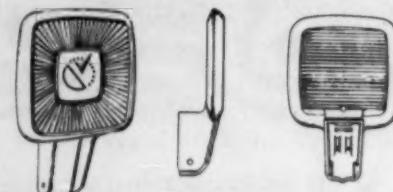
2,701,103. AIR SUPPLY FOR HOT AIR FURNACES. William C. Coleman, Wichita, Kan., assignor to The Coleman Co., Inc., Wichita, Kan., a corporation of Kansas. Application Oct. 25, 1950, Serial No. 192,103. 4 Claims. (Cl. 237—48.)



4. In apparatus for conditioning air for a house equipped with an attic and having an air treating unit equipped with a cold air return inlet, said house having also a hollow interior wall with studs therein providing a vertical passage, said vertical passage being in communication with the attic space, a duct leading from the lower portion of said vertical passage to said air inlet, said passage being provided at an intermediate point on the level of a room with a port providing communication with said room of said house, and a movably mounted valve supported in said passage above said port for controlling the flow of air from said attic.

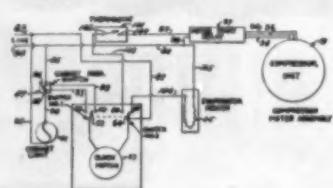
DESIGNS

173,938. REFRIGERATOR DOOR HANDLE. Donald E. Dailey, Center Township, Vanderburgh County, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application March 23, 1954, Serial No. 29,670. Term of patent 14 years. (Cl. D67—3.)



1. In a hinged door refrigerator, a rigid frame of thermally conductive material comprising a continuous rim portion of angle section having one side thereof defining the door front and the other side defining solely the peripheral door edge, a flange extending integrally and transversely rearwardly from the front rim portion in inwardly spaced relation to the door edge portion and cooperative therewith and the front rim portion to define a continuous space having a fully open rear side, a thermally non-conductive fillet member occupying said rim space and providing the rear door face therewith, means directly and fixedly securing the fillet member to and against and comprising the sole means for retaining the member in said rim space, and a thermally non-conductive resilient sealing strip directly mounted solely on the fillet member at the rear face thereof and providing a sealing rib extending transversely rearwardly from the door as the sole means for sealing the closed door therewith.

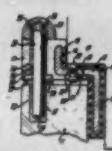
2,701,450. AUTOMATIC DEFROSTING MECHANISM. Thomas William Duncan, Evansville, Ind., assignor to Seeger Refrigerator Co., St. Paul, Minn., a corporation of Minnesota. Application Feb. 17, 1950, Serial No. 144,641. 9 Claims. (Cl. 62—4.)



1. In a refrigeration apparatus having an insulated cabinet having a door opening, a door for closing the opening, an evaporator, a condenser and a motor compressor, the evaporator being operably connected with the condenser and motor compressor, the evaporator being disposed in the cabinet, means for controlling the operation of the motor compressor in accordance with the temperature within the cabinet, a source of heat for raising the temperature of the evaporator sufficiently to melt frost formed on the

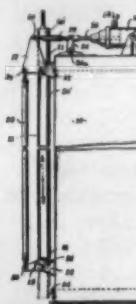
Week of February 8

2,701,394. HINGE FOR HEAVY REFRIGERATOR DOORS. Louis F. Barroero, San Leandro, Calif. Application May 21, 1954, Serial No. 431,467. 3 Claims. (Cl. 128—128.)



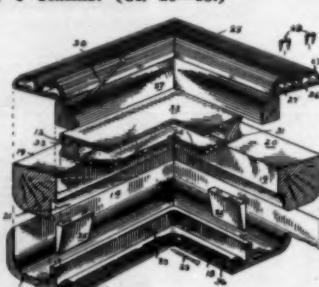
1. In a refrigerator display cabinet provided with a door permitting access thereto, a door hinge construction comprising a first tubular bushing pressed into a recess provided in the top of the refrigerator door, an external flange having a flat upper surface formed integral with the upper end of said first bushing, a bracket adapted to be fastened to the upper edge of the door opening, a second bushing mounted in said bracket with its upper end extending slightly above the top of said bracket, the bottom end of said second bushing being flush with the bottom of said bracket, and a hinge pin adapted to extend through both of said bushings.

2,701,394. DOOR SEALING APPARATUS. Chester R. Anderson, Los Angeles, Calif. Application May 29, 1953, Serial No. 358,442. 3 Claims. (Cl. 20—23.)



1. In an apparatus for hermetically sealing a door against a sealing gasket about the periphery of an opening into a chamber, means for urging with substantially equal force the opposite longitudinal edges of said door into engagement with said gasket comprising: channel members on opposite edges of the door, each having a pair of longitudinal roller guiding flanges; rollers adapted to roll in the channels in engagement with said roller guiding flanges; a bell crank lever rotatably mounting each roller and pivotally secured to the chamber; a longitudinally actuating rod member pivotally connected to another portion of each bell crank lever; and power means for moving said rod members to swing said bell crank levers about their pivot points which are secured to the chamber, whereby each roller is caused to bear against a guiding flange of its channel member to move the door in a direction normal to the plane of the opening against the sealing gasket.

2,701,395. REFRIGERATOR DOORS. Louis F. Barroero, San Leandro, Calif. Continuation of abandoned application Serial No. 189,561, Oct. 11, 1950. This application March 31, 1954, Serial No. 419,984. 4 Claims. (Cl. 20—35.)

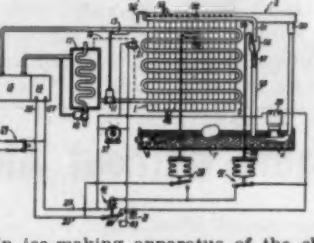


1. In a hinged door refrigerator, a rigid frame of thermally conductive material comprising a continuous rim portion of angle section having one side thereof defining the door front and the other side defining solely the peripheral door edge, a flange extending integrally and transversely rearwardly from the front rim portion in inwardly spaced relation to the door edge portion and cooperative therewith and the front rim portion to define a continuous space having a fully open rear side, a thermally non-conductive fillet member occupying said rim space and providing the rear door face therewith, means directly and fixedly securing the fillet member to and against and comprising the sole means for retaining the member in said rim space, and a thermally non-conductive resilient sealing strip directly mounted solely on the fillet member at the rear face thereof and providing a sealing rib extending transversely rearwardly from the door as the sole means for sealing the closed door therewith.

2,701,452. TUBE ICE-MAKING APPARATUS. Neil E. Hopkins, York, Pa., assignor to Flakko Corp., Brooklyn, N. Y., a corporation of Delaware. Application July 28, 1950, Serial No. 176,270. 5 Claims. (Cl. 62—105.)

orating means, and a one way only connecting means for operably connecting said temperature responsive means upon a predetermined reduction in temperature to move said pressure responsive valve means toward closed position only and completely disconnecting said temperature responsive means from said valve means upon movement in the opposite direction.

2,701,452. TUBE ICE-MAKING APPARATUS. Neil E. Hopkins, York, Pa., assignor to Flakko Corp., Brooklyn, N. Y., a corporation of Delaware. Application July 28, 1950, Serial No. 176,270. 5 Claims. (Cl. 62—105.)



1. In ice-making apparatus of the character described a water distributor system which includes, a closed water supply header having outlets spaced along its bottom wall and adapted to project solid streams of water respectively into the tops of the various tubes of a bank, target means positioned in the tops of the respective tubes in the line of the water flow and adapted to divert the water outwardly and upwardly within each tube

(Continued on next page)

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NEW OPPORTUNITIES for manufacturers' representatives operating in Chicago or southern states, who have commercial refrigeration dealer accounts, to sell fast-growing line of special and standard commercial refrigeration. Must be able to sell quality equipment. Write: Paul R. Stewart, THE C. SCHMIDT COMPANY, 1712 John Street, Cincinnati 14, Ohio.

DISTRICT MANAGER for Midwest—to headquartered in Chicago. Primary duty establishing new distributors and developing further sales through those already established. THE WARREN COMPANY, Box 1463, Atlanta 1, Georgia, established 1882, one of country's leading commercial-refrigerator manufacturers. Salary, incentive plan, expenses. Prefer experience in this field. State full background.

WANTED: MANUFACTURER'S representatives by nationally-known manufacturer of baseboard, flintube, convector, radiation, remote room air conditioning and water chilling units for residential and industrial use. Available territories: Connecticut, western Pennsylvania, Ohio, Kentucky, North and South Carolina, Georgia, west north central and mountain states and northwest. Also eastern territories for industrial products. Write BOX A5228, Air Conditioning & Refrigeration News.

UNUSUAL OPPORTUNITY for laboratory technician. Large eastern manufacturer has immediate opening for qualified individual. Work in modern lab on challenging low side research and development projects. Position is permanent with steady advancement. Send complete resume of experience including salary requirement to BOX A5229, Air Conditioning & Refrigeration News.

UNUSUAL OPPORTUNITY for refrigeration engineer. Large eastern manufacturer has immediate opening for qualified individual. Work in modern lab on challenging low side research and development projects. Position is permanent with steady advancement. Send complete resume of experience including salary requirement to BOX A5230, Air Conditioning & Refrigeration News.

CARRIER AIR conditioning and heating contractor in Ohio wants an experienced man to work with manager. Must be familiar with service, installation, design and engineering applied air conditioning jobs. Man must be able to work with engineers, contractors, architects and customers. Pleasant working conditions, good salary and expenses. Send employment application in with inquiry, desired salary, detailed experience background and photo if possible. BOX A5231, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

COIN METERS: Model SR-23. \$400.00 capacity, 1 H. P. Brand new, \$3.95. Nationally-known brand Model M-12. \$40.00 capacity, ½ H. P. Expertly reconditioned to look and operate like new, \$3.95. Nationally-known brand coin mechanisms Model M-6, 1 H. P. Brand new, \$3.95. Above come complete with set of timing gears. Extra gears, 35¢ per set. Full one-year replacement warranty policy on meters and mechanisms. C. BASS, 2104 Aqueduct Avenue, New York 53, N. Y., Wellington 3-2683.

BRAND NEW 1955 models completely automatic 110V. or 220V. Kesco condensate water disposal units for air conditioners at your jobbers. Famous flood-proof, trade accepted, low priced K-40 12 ft. head; K-55 17 ft. pump; available in deluxe heavy hot-dipped galvanized tank 9½" high, 14" wide, 7" thick. Write for your nearest jobber; literature; KESCO PRODUCTS CORP., Box 84, Springfield Gardens 13, New York.

ATTENTION SERVICEMEN: Save 25 to 50% on your refrigeration parts. Send for our catalog of values today. Here is only one of our money saving offers. 1½" O.D. copper connections x 1¼" overall vibration eliminators, \$4.65 each. Lot of 10, \$4.00 each. WALTER W. STARR REFRIGERATION SUPPLIES, 2833 Lincoln Avenue, Chicago 13, Illinois.

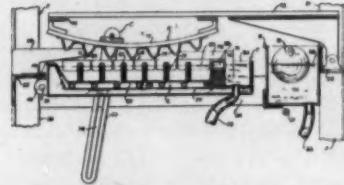
MISCELLANEOUS

"SEALED UNIT Rebuilding-Basic Tools & Methods"—an instructive copyrighted manual giving complete details on economically equipping your shop to handle hermetic rebuilding. Exclusive trade secrets unavailable elsewhere. Mail postcard for descriptive folder. H. W. CUSTER, P. O. Box 98, Center Line, Michigan.

PATENTS

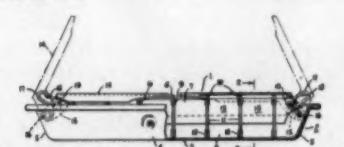
(Continued from preceding page)
against the tube walls thereof, and venting means connected to the tops of said tubes and extending therefrom to substantially atmospheric pressure.

2,701,453. ICE-MAKING MACHINE. Ray M. Henderson, Waco, Texas.



In an ice-making machine, a tray, a grid means for the tray, means for making ice in the tray which will be separated into blocks by the grid means, means for freeing the tray from the grid means and the formed ice, means for pivotally mounting the tray adjacent one end for swinging to a position where ice falling from the grid means can move by gravity away from the tray, means for pivoting the tray, and means operable by the last named means for substantially simultaneously punching out all the ice blocks congealed to the grid means by the application of a direct force to the ice blocks.

2,701,454. WEDGE ICE TRAY. Julius B. Horvay, Erie, Pa., assignor to General Electric Co.



1. In a grid structure for cooperating with an ice tray to provide ice block forming compartments, a compartment divider comprising a longitudinal divider consisting of a pair of oppositely pointing wedges, said wedges being arranged with the pointed portions thereof in juxtaposed engaging relation, at least one of said wedges being movable for increasing surface engagement between said wedges, increased surface engagement between said wedges effecting lateral displacement of said wedges thereby to exert laterally directed forces against ice blocks formed in compartments separated by said wedges for facilitating the release of said ice blocks from said compartments.

2,701,455. HEATED PLATE UNIT FOR DEFROSTING SYSTEMS. Herman W. Kleist, Hollywood, Ill., assignor to Dole Refrigerating Co., Chicago, Ill., a corporation of Illinois. Application July 23, 1953, Serial No. 300,376. 3 Claims. (Cl. 62—126.)



1. In a vacuum type plate, two outer plate walls having generally parallel plane surfaced sides and connecting edge portions, said edge portions being secured

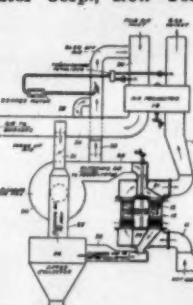
together in gas-tight relationship, with said plane surfaced sides spaced part, an intermediate sheet metal wall in the space between said plate walls, forming, with one of said plate walls, a coil space, the opposed portions of said intermediate sheet metal wall and said last mentioned plate wall being secured together in gas-tight relationship, a tubular element positioned between said intermediate sheet metal wall and the opposite plate wall, a resistance heater therewithin, heat storage means surrounding and in heat conductive relationship with said tubular element, and inlet and outlet ducts for the coil formed by said walls.

2,701,621. AIR FILTER. Frank Sprague, Springfield, Mass.



1. An air filter comprising a substantially horizontal elongated housing having an inlet for gases to be cleaned at one end and an outlet for cleaned gases at its opposite end, a pair of partitions sealed transversely of said housing adjacent to but spaced from opposite ends thereof and each having an aperture therein, a tubular member formed of dielectric material supported in sealed relation in said partition apertures, the ends of said tubes terminating spaced from the ends of said housing and the intermediate portion of said tube having an elongated slot in its lowermost part, a plurality of reticulated electrically conductive members spanning said tube in spaced relation, and means for electrically charging alternate conductive members to opposite polarity.

2,701,622. RECIRCULATION OF CLEANING AIR IN PRECIPITATOR. Peter Hodson, Wellsville, N. Y., assignor to The Air Preheater Corp., New York, N. Y.



1. A gas cleaning system comprising: an electrostatic precipitator interposed in a duct carrying particle-laden hot gases; continuously operating means utilizing a stream of air for cleaning separated particles from the collecting surfaces of the precipitator and conveying them from the latter; an after-collector for removing the carried particles from the air stream; a fan for withdrawing the cleaned air from said after-collector and recirculating it through said precipitator, said precipitator, after-collector and fan being interconnected to form a closed circuit; an air heater; means for taking heated air from said air heater and mixing it with the stream of cleaned air before reintroduction of the latter into said precipitator.

(To Be Continued)

Government Contracts

Memphis District, Corps of Engineers, P.O. Box 97, Memphis, Tennessee

Air conditioning, 1-hp. 110 units CIVENG- 34 May 55

40-041-55

180-B

GENERAL SERVICES ADMINISTRATION

General Services Administration, Region IV, 50 Seventh St., N.E., Atlanta, Georgia

Air conditioning, etc.; V.A. Job CR4-955 17 May 55

Domiciliary, Thomasville, Ga.

FOREIGN OPERATIONS ADMINISTRATION

Chinese Government Procurement and Services Mission, Room 1508, 102 Malden Lane, New York, New York

Electric refrigerators, 12 set (INV- 445-C) 30 May 55

Submit Bids Taipei, Taiwan.

CONTRACTS AWARDED THROUGH APRIL 26

Contracting Office, Arnold Engineering Development Center, Air Research and Development Command, Tullahoma, Tennessee

Temperature recorder - inst. range -100° F. to +700° F., 3 ea.; Range change kits, 3 ea.; Temperature recorder -100° F. to +700° F., 2 ea.; Range change kits, 2 ea.; Temperature Recorder -100° F. to +700° F., 1 ea.; Temperature recorder -100° F. to +500° F., 1 ea.; Range change kits, 4 ea.; Temperature recorder -100° F. to +2400° F., 2 ea.; Range change kits, 4 ea. - \$32,328—Minneapolis-Honeywell Regulator Co., Room 1029, Chattanooga Bank Bldg., Chattanooga, Tenn.

General Stores Supply Office, 700 Robbins Ave., Philadelphia 11, Pennsylvania

Electric operated cooler (Inv. No. 155-897-55) -700 ea., \$71,177—

Westinghouse Electric Corp., 1625 "K" St., N.W., Washington 6, D. C.

Ships Parts Control Center, Mechanicsburg, Pennsylvania

Repair parts for air conditioning and refrigeration equipment (N1048-50270) (P.R. 75-50270) -16,985, \$122,950—Carrier Corp., 300 S. Geddes St., Syracuse, N. Y.

General Services Administration, Business Service Center, 1114 Commerce, Dallas, Texas

Muskogee, Okla., P.O. & Ct. House, additional wiring and installing air conditioning units Project CR7552-162—Job, \$17,700—Electro, Inc., P.O. Box 1227, Denver, Colo.

Yards & Docks Supply Ofc., Port Hueneme, California

Refrigerator, electric, domestic, 11.5 cu. ft. w/right and left hand door opening—123 ea., \$29,971—Westinghouse Electric Supply Co., 4801 S. Boyle Ave., Los Angeles 58, Calif.

Home Freezer Specifications

Coming
May 30

Add new dealers and distributors— Put vital kick into your 1955 promotions. You will with a dominant, aggressive advertisement in this annual bonus issue of AIR CONDITIONING & REFRIGERATION NEWS.

Make your reservation
NOW.

Advertising forms close
May 20.

Publication date: May 30.

Highlight the detailed specifications on your freezers. You can make a strong sales attack by adding glamour to the facts—by merchandising the strong sales points of your units.

More than 19,000 subscribers to AIR CONDITIONING & REFRIGERATION NEWS will read the freezer specification issue with special interest. So take this excellent opportunity to play up the features that give your unit special sales appeal.

You'll find here an audience interested in knowing more of the details behind the facts. Remember, News' readers are the front-line salesmen you have to sell first.

AIR CONDITIONING & REFRIGERATION News

450 West Fort St., Detroit 26, Michigan

301 Fifth Ave., New York 17; 134 S. LaSalle St., Chicago 3;

15515 Detroit Ave., Cleveland 7.

**Chemical
SOLVENT COMPANY**
P.O. BOX 437 - BIRMINGHAM, ALA.

"Solvex Cleaner reduces head pressure to normal in a few minutes while the machine is working"

Few cooling towers, shell and tube condensers and "evaps" can operate indefinitely without being cleaned. Accumulation of scale, algae, grease, slime and dirt can cause real trouble such as poor heat transfer . . . high head pressures . . . and increased operating costs. The way to clean up such trouble is with SOLVEX CLEANER GRAINS AND TABLETS, which can be used while the machine is working. Head pressure usually returns to normal in 15 to 45 minutes.

SOLVEX CLEANER is SAFE—safe for the operator who uses it, safe for the equipment he uses it on. SOLVEX aids in preserving metals. It disintegrates the scale and algae to sludge that can be harmlessly drained from the sump. In cases where very bad conditions exist ULTRA-SOLVEX is recommended. Much of the trouble encountered in the operation of water-cooling

equipment can be prevented. Cooling towers and evaporative condensers, newly installed or after being cleaned, should be given the SOLVEX MAINTENANCE treatment to stop corrosion and retard scale formation and the growth of slime and algae. The SOLVEX MAINTENANCE FORMULA is obtainable in tablet form or in granular bulk (grains).

You can find out about these fine-quality products at your wholesaler or by writing—

**Chemical
SOLVENT COMPANY**
P.O. BOX 437 - BIRMINGHAM, ALA.

All-Industry Show Space Getting Short--

(Concluded from Page 1, Col. 2)
left, there is every indication that we will have an early 'sell-out' even though the show is still over seven months away. This will certainly be the largest and most complete showing of air conditioning and refrigeration ever held," Coggins said.

Full information on the Exposition can be obtained by writing to George E. Mills, show director, 9th Exposition of the Air-Conditioning and Refrigeration Industry, at 1346 Connecticut Ave., N.W., Washington, D. C.

Exhibitors as of April 1, 1955:

COMPANY	BOOTH
A-P Controls Corp.	732-3
Ace Cabinet Corp.	532-3
Acme Industries, Inc.	423-4
Addison Products Co.	406
Aerofin Corp.	102
Aerovox Corp.	914
Air Conditioning & Refrigeration News	507
Airtemp Div., Chrysler Corp.	415-6-7
Airesco Mfg. Co., Inc.	634
Alco Valve Co.	327-8
Allen-Bradley Co.	247-8
Allin Mfg. Co.	814
American Air Filter Co.	724
American Brass Co.	330
American Coils Co.	602-3-4-5-6
American Gas Machine Co., Inc.	245-246
Amino Refrigeration Products Co.	641
Ansul Chemical Co.	422
Appliance Manufacturer Magazine	720
Arrow-Hart & Hegeman Electric Co.	916
Bacharach Industrial Instrument Co.	904
Bailey & Perkins Co.	114
Bal-Air, Inc.	903
Bally Case & Cooler Co.	522-414
Baltimore Aircoil Co., Inc.	242-108
Bell & Gossett Co.	519-20
Betz Corp.	217
The Brewer-Titchener Corp.	535
Brunner Mfg. Co.	426-7-8
Bryant Heater Div., Affiliated Gas Equipment, Inc.	404
Bundy Tubing Co.	308
Bush Mfg. Co.—Heat-X, Inc.	323-4-5-6
Calgon, Inc.	815
Carbonic Dispenser, Inc.	335
Carrier Corp.	302-3
Carver Pump Co.	743
Century Electric Co.	508
Chase Brass & Copper Co.	725
Chemical Solvent Co.	502
Goldin Cabinet Co.	727-8-9
Coleman Co.	613-4
Colonial Alloys Co.	902
Commercial Refrigeration Magazine	619
Copeland Refrigeration Corp.	141-2-3
Cory Corp.	503
Creamery Package Mfg. Co.	215
Curtis Refrigerating Machine Div. of Curtis Mfg. Co.	421-314
Cutter-Hammer, Inc.	518
Davison Chemical Co., Div. of W. R. Grace & Co.	432
The Dayton Rubber Co.	510
Dean Products, Inc.	410
Deering Air Conditioning Co.	214
Delco Products Div., General Motors Corp.	236
Detroit Controls Corp.	301-434
Dole Refrigerating Co.	144-5
Domestic Engineering Co.	209
E. I. du Pont de Nemours & Co., Inc.	515
Dow Chemical Co.	509
Emerson Electric Mfg. Co.	239-40
Essex Wire Corp.	235
Eston Chemicals Div., American Potash & Chemical Corp.	331
Evans Mfg. Corp.	238
Fasco Industries, Inc.	208
Fedders-Quigan Corp.	409
Federal Refrigerator Mfg. Co.	110-111
Flexible Tubing Corp.	216
Fogel Refrigerator Co.	249
Foster Refrigerator Corp.	611
Frankell Mfg. Co.	812
Frick Co.	623
Frigid Igloo Mfg. Corp.	211
Frigidaire Div., General Motors Corp.	655
Friedrich Refrigerators, Inc.	745

E-Z-SEE
LIQUID INDICATOR

NEW FLG INDICATOR FLAP SHOWS ALL FLOW CHANGES

Analyze flow, function of expansion valve, by means of E-Z-SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof — hundreds of thousands in use.

Available at Wholesalers everywhere

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T. W. RUNDELL L. W. LARSEN F. G. PURCELL

Alden Buys Mathes--

(Concluded from Page 1, Col. 2)
and 100,000 shares of Glen Alden treasury stock with the balance of \$8 million being paid from 50% of the earnings before taxes of Mathes Co."

He said that Mathes executives have contracted "to stay with us for several years until suitable replacements have been trained."

The purchase involves Mathes three Texas plants: a sheet metal shop at Marble Falls, a wood working veneer and plastics plant at Center, and the assembly plant in Fort Worth.

Case said that Mathes expected its sales this year to range between \$15 million and \$20 million with anticipated earnings before taxes of \$2.5 million to \$3 million.

Salk Vaccine--

(Concluded from Page 1, Col. 5)
myelitis vaccine advises acute shortage of school facilities to store vaccine at normal 40-45° refrigerator temperature. Request you contact local health officials, offer, and deliver refrigerators where needed in your area."

The National Foundation for Infantile Paralysis said vaccine for first and second graders has been delivered to state health officers in 29 states, the District of Columbia, and Hawaii.

Tecumseh Reorganization--

(Concluded from Page 1, Col. 5)
is to build a stronger organization by utilizing the combined talents of both organizations in all phases of the business. Continued growth of the operation is such that all participants felt the need of consolidation.

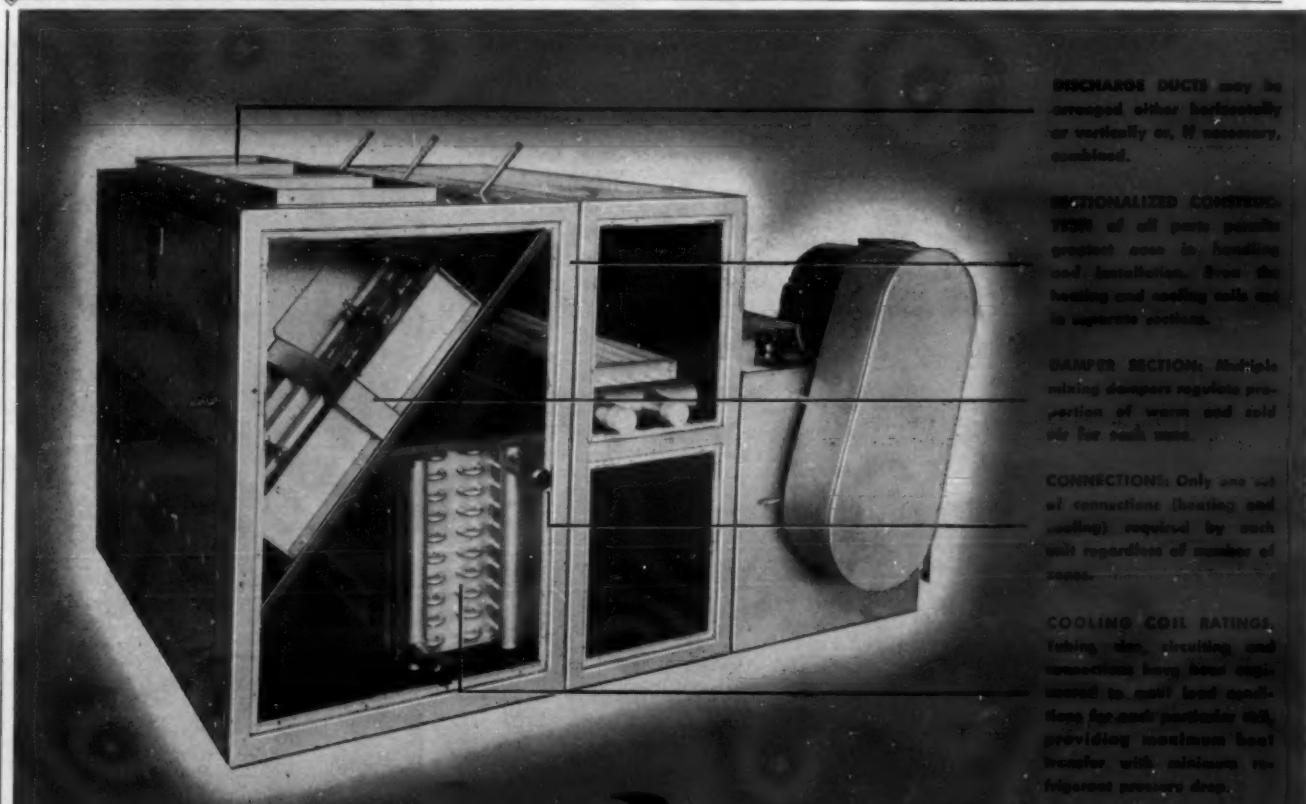
To insure continuity of customer relationships, the entire sales and engineering staff of Tresco will join the Tecumseh organization.

T. W. Rundell, formerly of Servel, Inc., will become general manager of sales and sales engineering. F. G. Purcell will assume the post of general sales manager. A newly created position of manager of consumer research will be filled by L. W. Larsen. D. J. Bowen

has been promoted to sales manager of the Western Div., and P. G. Colgrave has been promoted to sales manager of the Eastern Div.

No other changes in the operation and functioning of the sales and engineering departments are being made. The field organization will continue to function as it has in the past.

The following district offices will continue to serve all customers: George I. Boone & Son, New York Area. R. T. Smith & Sons, Detroit Area. Joe E. Parker, Atlanta Area. V. A. Wilkinson & A. E. Boyea, Export-Detroit. Marc A. Shantz, Chicago Area. R. B. Grisbrook, St. Louis. D. C. Yates, Seattle. Leo J. Freitas, Dallas. J. A. McLaren, Los Angeles.



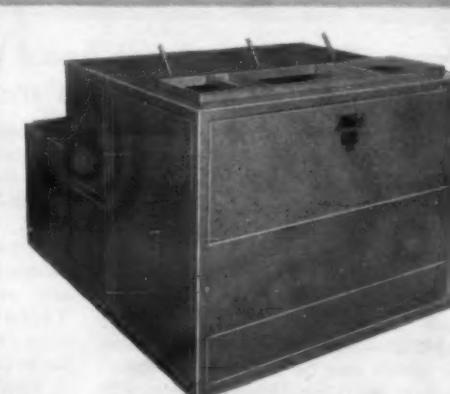
ANOTHER NEW PRODUCT IN THE EXPANDING BUSH LINE { BUSH MZ MULTIZONE AIR CONDITIONING UNITS

A single unit replaces several Bush 'MZ' Multizone Units provide simultaneous air conditioning of separate rooms or zones at any desired temperature . . . make possible individualized conditioning of such areas.

Steady temperature control possible with Bush 'MZ' Units is especially advantageous where the problem of fluctuating cooling and heating loads exists . . . where sun load and occupancy vary.

Contractors, architects and consulting engineers welcome the clean-lined compactness of these units . . . the sectionalized construction which permits easy handling and installation.

Capacities range from 2,560 to 24,000 C.F.M.



Request Bulletin #805 containing complete information.

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